

PROSPECTUS SUPPLEMENT
(to Prospectus dated October 8, 2025)**5,000,000 Shares****Common Stock**

We are offering 5,000,000 shares of our common stock, par value \$0.0001 per share ("common stock").

Our common stock is listed on The Nasdaq Global Select Market under the symbol "ZBIO." The last reported sale price of our common stock on The Nasdaq Global Select Market on March 26, 2026 was \$22.16 per share.

Concurrently with this offering, we are conducting a public offering (the "Concurrent Convertible Notes Offering") of 2.50% Convertible Senior Notes due 2032 (the "notes") in the aggregate principal amount of \$200.0 million (or \$230.0 million if the underwriters in the Concurrent Convertible Notes Offering exercise their over-allotment option in full). The Concurrent Convertible Notes Offering is being made pursuant to a separate prospectus supplement. Neither the completion of this offering nor the Concurrent Convertible Notes Offering is contingent on the completion of the other, so it is possible that this offering occurs and the Concurrent Convertible Notes Offering does not occur, and vice versa, or neither occurs, or either offering results in lower net proceeds than we currently estimate. The Concurrent Convertible Notes Offering may not be completed on the terms described herein, or at all. This prospectus supplement and the accompanying prospectus are not an offer to sell or a solicitation of an offer to buy any securities being offered in the Concurrent Convertible Notes Offering. See "Description of Concurrent Convertible Notes Offering" for a summary of the terms of the notes and a further description of the Concurrent Convertible Notes Offering.

We are an "emerging growth company" and a "smaller reporting company" as defined under the federal securities laws, and as such, have elected to comply with certain reduced public company reporting requirements. See "Prospectus Supplement Summary—Implications of Being an Emerging Growth Company and a Smaller Reporting Company."

Investing in our common stock involves a high degree of risk. See "Risk Factors" on page S-8 of this prospectus supplement and the documents incorporated by reference into this prospectus supplement.

Neither the U.S. 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	TOTAL
Public offering price	\$ 20.00	\$100,000,000
Underwriting discounts and commissions ⁽¹⁾	\$ 1.20	\$ 6,000,000
Proceeds to Zenas BioPharma, Inc. (before expenses)	\$ 18.80	\$ 94,000,000

⁽¹⁾ See "Underwriting" for a description of the compensation payable to the underwriters.

We have granted the underwriters an option for a period of 30 days to purchase an additional 750,000 shares of our common stock. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be \$6,900,000, and the total proceeds to us, before expenses, will be \$108,100,000.

We expect to deliver the shares of common stock to investors in book-entry form through the facilities of The Depository Trust Company on or about March 31, 2026, which will be the second business day following the initial trade date for the shares offered pursuant to this prospectus supplement (this settlement cycle being referred to as "T+2"). Under Rule 15c6-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), trades in the secondary market generally are required to settle in one trading day, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade the shares of common stock being offered hereby prior to the business day preceding the settlement date will be required, by virtue of the fact that the shares initially will settle T+2, to specify an alternate settlement cycle at the time of any such trade to prevent a failed settlement. Purchasers of the shares who wish to trade the shares prior to the business day preceding the settlement date should consult their own advisors.

Joint Book-Running Managers

Jefferies**Evercore ISI****Citigroup***Co-Manager***Guggenheim Securities****Wedbush PacGrow**

Prospectus Supplement dated March 26, 2026

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus form part of an automatic shelf registration statement on [Form S-3ASR \(File No. 333-290777\) that we filed with the U.S. Securities and Exchange Commission \(the "SEC"\) on October 8, 2025](#), and which became automatically effective upon filing, as a "well-known seasoned issuer" as defined in Rule 405 under the Securities Act of 1933, as amended (the "Securities Act"), using an automatic "shelf" registration process. Under this shelf registration process, we may, from time to time, sell common stock and other securities, including in this offering. This document contains two parts. The first part consists of this prospectus supplement, which provides you with specific information about this offering. The second part consists of the accompanying prospectus, which provides more general information, some of which may not apply to this offering. Generally, when we refer only to the "prospectus," we are referring to both parts combined. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus, or any documents incorporated by reference, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus, including the documents incorporated by reference therein. Information in any document we subsequently file that is incorporated by reference shall modify or supersede the information in this prospectus supplement, the accompanying prospectus and documents incorporated by reference prior to such subsequent filing. You should read this prospectus supplement and any free writing prospectus carefully, including all documents incorporated herein and therein by reference, together with the additional information described below under "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" before making an investment in our securities. This prospectus supplement does not include all of the information that is in the registration statement. We omitted certain parts of the registration statement from this prospectus supplement as permitted by the SEC. We refer you to the registration statement and its exhibits. We have not, and the underwriters have not, authorized any other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus supplement or any free writing prospectus provided in connection with this offering. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus supplement.

We are responsible for the information contained and incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not, and the underwriters have not, authorized anyone to give you any other information, and we take no responsibility for any other information that others may give you. We are not making offers to sell the securities in any jurisdiction in which an offer or solicitation is not authorized or permitted or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. The information contained and incorporated by reference in this prospectus supplement or the accompanying prospectus speaks only as of the date of this document, unless the information specifically indicates that another date applies. Neither the delivery of this prospectus supplement or the accompanying prospectus, nor any sale of securities made under these documents, will, under any circumstances, create any implication that there has been no change in our affairs since the date of this prospectus supplement or the accompanying prospectus, nor that the information contained or incorporated by reference is correct as of any time subsequent to the date of such information. You should assume that the information contained and incorporated by reference in this prospectus supplement and the accompanying prospectus is accurate only as of the date of the documents containing the information, unless the information specifically indicates that another date applies. Our business, financial condition, results of operations and prospects may have changed since those dates.

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

This prospectus supplement and the accompanying prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the shares of common stock to which it relates, nor do

this prospectus supplement and the accompanying prospectus 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.

Unless otherwise indicated, information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus concerning our industry and the markets in which we operate, including market position and market opportunity, is based on information from our management's estimates, as well as from industry publications and research, surveys and studies conducted by third parties. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. However, assumptions and estimates of our future performance, and the future performance of our industry are subject to numerous known and unknown risks and uncertainties, including those described under the heading "Risk Factors" beginning on page S-8 of this prospectus supplement and the risk factors incorporated by reference into this prospectus supplement and accompanying prospectus. These and other important factors could result in our estimates and assumptions being materially different from future results. You should read the information contained in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus completely and with the understanding that future results may be materially different and worse from what we expect. See the information included under the heading "Cautionary Note Concerning Forward-Looking Statements."

References in this prospectus supplement to "Zenas," the "Company," "we," "us," "our" or similar terms refer to Zenas BioPharma, Inc. and our subsidiaries on a consolidated basis, as appropriate, unless we state otherwise or the context otherwise requires.

The Zenas BioPharma word mark, logo mark, and the "lightning bolt" design are trademarks of Zenas BioPharma, Inc. or its affiliated companies. This prospectus supplement and documents incorporated by reference herein and therein contain references to our trademarks and to trademarks belonging to other entities. Each of the other trademarks, trade names and service marks included in this prospectus supplement belongs to its respective holder. Solely for convenience, trademarks, trade names and service marks referred to in this prospectus supplement, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, trade names and service marks. We do not intend our use or display of other entities' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

CAUTIONARY NOTE CONCERNING 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. All statements other than statements of historical facts are forward-looking statements. In some cases, forward-looking statements can be identified by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential” or “continue” or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements include, but are not limited to, statements concerning:

- the commercial opportunities stemming from the development of our product candidates for multiple immunology and inflammation (“I&I”) diseases;
- our ability to develop and, if approved, ultimately commercialize our product candidates and, with partners, our other programs;
- our ability to obtain or maintain orphan drug designation for certain of our product candidates;
- the initiation, timing, progress, results, and cost of our development programs, and our current and future preclinical and clinical studies, including statements regarding the timing of initiation and completion of our clinical trials, and the period during which the results of the trials will become available;
- the success, cost and timing of our clinical development of our product candidates;
- our ability to establish clinical differentiation of our product candidates;
- our ability to develop product candidates that have broad therapeutic potential;
- our ability to utilize our business development strategy and expertise to build a balanced portfolio;
- our ability to identify collaborations and strategic partnerships to maximize the value of our portfolio;
- our ability to build our operational and commercial capabilities for supplying and marketing our products, if approved, in key markets;
- market conditions in the biopharmaceutical sector and issuance of securities analysts’ reports or recommendations;
- the trading volume of our common stock;
- an inability to obtain additional funding and make borrowings under our agreement with BioPharma Credit PLC, BPCR Limited Partnership and BioPharma Credit Investments V (Master) LP, which are funds managed by Pharmakon Advisors, LP (collectively, “Pharmakon”), and the guarantors party to such agreement (the “Loan Agreement”);
- our ability to initiate, recruit and enroll patients in and conduct our clinical trials at the pace that we project;
- our ability to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations or warnings in the label of any of our product candidates, if approved;
- our reliance on third parties to manufacture drug substance and drug product for use in our clinical trials;
- our ability to retain and recruit key personnel;
- our ability to obtain and maintain adequate intellectual property rights;
- our expectations regarding government and third-party payor coverage and reimbursement;
- the impact of current and future healthcare reforms, including those affecting the delivery of or payment for healthcare products and services;
- our expectations regarding federal, state and foreign regulatory requirements;
- our estimates of our expenses, ongoing losses, capital requirements and our needs for or ability to obtain additional financing, including our planned use of proceeds from this offering, together with the net proceeds from the Concurrent Convertible Notes Offering;

- our existing cash, cash equivalents and short-term investments and the sufficiency of our existing cash and proceeds from future capital-raising efforts, including our planned use of proceeds from this offering, together with the net proceeds from the Concurrent Convertible Notes Offering to fund our future operating expenses and capital expenditure requirements;
- the potential benefits of strategic collaboration agreements;
- our ability to enter into strategic collaborations or arrangements, including potential business development opportunities and potential licensing partnerships, and our ability to attract collaborators with development, regulatory and commercialization expertise;
- sales of our stock by us, our insiders or our stockholders;
- our expectations regarding the time during which we will be an emerging growth company and smaller reporting company under the Jumpstart Our Business Startups Act of 2012, as amended;
- general economic, industry, geopolitical and market conditions, such as military conflict or war, inflation and financial institution instability, tariffs and other trade measures, or pandemic or epidemic disease outbreaks, many of which are beyond our control;
- additions or departures of senior management, directors or key personnel;
- our financial performance;
- developments and projections relating to our competitors or our industry; and
- other risks and uncertainties, including those included in the section titled "Risk Factors" contained in this prospectus supplement.

The forward-looking statements in this prospectus supplement may prove incorrect. These forward-looking statements speak only as of the date of this prospectus supplement and are subject to a number of known and unknown risks, uncertainties and assumptions, including those described under the section titled "Risk Factors" in this prospectus supplement and the accompanying prospectus and in the documents incorporated by reference herein and therein. In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus supplement and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and should not be unduly relied upon. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, these forward-looking statements should not be relied upon as guarantees of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual future results, levels of activity, performance and events and circumstances could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risks and uncertainties may emerge from time to time, and management cannot predict all risks and uncertainties. Except as required by applicable law, we do not undertake to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

PROSPECTUS SUPPLEMENT SUMMARY

The items in the following summary are described in more detail later in this prospectus supplement and the accompanying prospectus. This summary provides an overview of selected information and does not contain all of the information you should consider before buying our common stock. Therefore, you should read our entire prospectus supplement and the accompanying prospectus carefully, including the information in our filings with the SEC incorporated by reference herein and therein, before deciding to invest in our common stock. Investors should carefully consider the information set forth under "Risk Factors" beginning on page S-8 of this prospectus supplement and page 5 of the accompanying prospectus and those risks identified in our most recent Annual Report on Form 10-K, and any subsequent Quarterly Reports on Form 10-Q.

Company Overview

We are a clinical stage global biopharmaceutical company committed to being a leader in the development and commercialization of transformative immunology-based therapies for patients in need. With the evolving understanding of the pathogenesis of autoimmune diseases, along with the expansion of promising immunology-based pharmacologic targets, we are building an I&I focused biopharmaceutical company. We are developing product candidates in indications that we estimate have a total addressable market of approximately \$50 billion globally. Our core business strategy combines disciplined product candidate acquisition with strategic deployment of internal expertise and effective use of external resources. We leverage our experienced executive management team and our established networks throughout the biopharmaceutical industry to identify, acquire and develop product candidates that we believe can provide superior clinical benefits to patients living with autoimmune diseases.

Our lead I&I product candidate, obexelimab, is a bifunctional monoclonal antibody designed to bind both CD19 and FcγRIIb, which are broadly present across B cell lineage, in order to inhibit the activity of cells that are implicated in many autoimmune diseases without depleting them. Based on existing clinical data generated to date, we believe that targeting B cell lineage via CD19 and FcγRIIb can inhibit B cells and has been shown to be well-tolerated. While anti-CD20 or other anti-CD19 targeting agents may effectively deplete B cells in systemic circulation, these agents do not fully impact B cells in relevant tissue, and the intermittent dosing regimens of these agents may not provide optimal benefits for all patients. In addition, anti-CD20 and other anti-CD19 targeting agents may cause prolonged depletion of circulating B cells for six months or longer, placing patients at higher risk of opportunistic infections and potentially reducing their ability to respond to, and receive full benefit from, vaccines. We believe obexelimab's mechanism of action and chronic dosing regimen may broadly and effectively address the pathogenic role of B cell lineage in chronic autoimmune disease. Across eight clinical trials, including INDIGO and MoonStone, in which 383 subjects were dosed, obexelimab was well-tolerated and demonstrated clinical activity that we believe provides POC for obexelimab as a B cell inhibitor for the treatment of patients living with certain autoimmune diseases and, together with its mechanism of action, positions obexelimab to be a potentially differentiated B cell therapy for the treatment of such patients.

We believe obexelimab holds the potential to provide meaningful clinical benefit for patients in multiple I&I indications. We are developing obexelimab as a potential I&I franchise for patients in several autoimmune diseases, representing substantial commercial opportunities, individually and in the aggregate. The first three indications we are pursuing include immunoglobulin G4-related disease ("IgG4-RD") through a registration-directed Phase 3 trial which reported topline data in January 2026, and relapsing multiple sclerosis ("RMS"), through a Phase 2, double-blind, randomized, placebo-controlled trial which reported topline data in October 2025, and systemic lupus erythematosus ("SLE") through an ongoing Phase 2, double-blind, randomized, placebo-controlled trial for which we expect to report topline results, including biomarker data, in the fourth quarter of 2026. We estimate that the SLE total addressable patient population is approximately 125,000 patients in the United States, representing a potential \$8 billion commercial opportunity in the United States alone.

In January 2026, we reported positive results from the Phase 3 trial of obexelimab in patients with IgG4-RD (the "INDIGO") trial. Obexelimab met the primary endpoint, demonstrating a highly statistically significant and clinically meaningful 56% reduction in the risk of IgG4-RD flare compared to placebo (Hazard Ratio 0.44, $p=0.0005$) and also met and demonstrated highly statistically significant activity compared to placebo on all

four key secondary endpoints. Obexelimab was well tolerated with a safety profile consistent with that observed in previously completed clinical trials. Based on these results, we plan to submit the obexelimab Biologics License Application (“BLA”) to the U.S. Food and Drug Administration (“FDA”) for the treatment of IgG4-RD in the second quarter of 2026. We estimate that IgG4-RD affects 20,000 to 40,000 patients in the United States, with a similar global prevalence. Of that patient population, we estimate a total addressable patient population of IgG4-RD is approximately 10,000 to 12,000 patients in the United States, representing a potential \$3 billion commercial opportunity in the United States alone. We also intend to submit a Marketing Authorization Application to the European Medicines Agency in the second half of 2026.

In October 2025, we reported that the Phase 2 trial for RMS (“MoonStone”) met its 12-week primary endpoint, demonstrating a highly statistically significant 95% relative reduction in the cumulative number of new gadolinium-enhancing (“GdE”) T1 hyperintense lesions over week 8 and week 12 compared with placebo ($p=0.0009$).

In February 2026, we reported the 24-week data from MoonStone trial which confirmed the reductions in total GdE T1 hyperintense lesions observed with obexelimab over weeks 8 and 12 were maintained through week 24; unadjusted mean numbers of new lesions per scan were 0.87 at baseline, 0.08 at week 12 and 0.04 at week 24 for obexelimab indicating a 95% reduction.

In addition to obexelimab, we are developing orelabrutinib, a Bruton’s Tyrosine Kinase inhibitor (“BTK”), for progressive forms of multiple sclerosis. Orelabrutinib is a highly selective and central nervous system (“CNS”)-penetrant, oral small molecule BTK inhibitor. Orelabrutinib is designed to bind irreversibly to BTK with minimal off-target effects, which may potentially reduce certain side effects. We believe orelabrutinib is designed to efficiently cross the blood-brain barrier, reaching therapeutic levels within the CNS to directly target inflammation in diseases like Multiple Sclerosis (“MS”).

We are advancing orelabrutinib in a global, Phase 3, multicenter, randomized, double-blind, placebo-controlled clinical trial in patients with Primary Progressive Multiple Sclerosis (“PPMS”), the (“PriMroSe”) trial, and we plan to initiate a second global, Phase 3, multicenter, randomized, double-blind, placebo-controlled clinical trial evaluating orelabrutinib in patients with non-active Secondary Progressive Multiple Sclerosis, the (“Monarch”) trial in the first quarter of 2026. Based on our statistical analysis for these trials, we estimate that a total of 332 events in the Monarch trial would yield approximately 88% power, and 355 events in the PriMroSe trial would yield approximately 90% power, in each case to detect the superiority of orelabrutinib over placebo.

We also have two early-development product candidates: ZB021 and ZB022. ZB021 is an oral IL-17AA/AF inhibitor designed to block both IL-17AA homodimer and IL-17AF heterodimer signaling. We expect Phase 1 clinical study initiation in 2026.

ZB022 is an oral, brain-penetrant tyrosine kinase 2 (“TYK2”)-JH2 inhibitor, currently in Investigational New Drug (“IND”)-enabling studies. Subject to the results of the IND-enabling studies, we expect to submit an IND application for ZB022, and if cleared, initiate a Phase 1 clinical study in 2026.

In addition, we have two other programs for the potential treatment of other I&I indications that we may continue to advance and ultimately commercialize with partners. These consist of ZB002 (an anti-TNF α monoclonal antibody) and ZB004 (a CTLA-4-Ig fusion). We retain global rights for both assets. In addition, we hold the development and commercialization rights to one regional program, ZB001 (also known as VRDN-001), an insulin-like growth factor-1 receptor monoclonal antibody and related programs, which were exclusively sublicensed to a partner in greater China.

To date, we have no product candidates approved for commercial sale in any country and have not generated any revenue from product sales.

Recent Developments

Loan Agreement

On March 14, 2026, the Company entered into the Loan Agreement with Pharmakon and the guarantors party thereto. The Loan Agreement provides for up to a \$250.0 million Term Loan that matures on March 27, 2031 (the “Term Loan”) and consists of five tranches including (1) a Tranche A Loan of \$75.0 million, to

be drawn ten business days following the execution of the Loan Agreement, (2) a Tranche B Loan of \$50.0 million, which will be required to be drawn (and up to \$25.0 million that the Company may elect to draw) by no later than November 1, 2027, subject to the occurrence of the Company's receipt of approval from the FDA of a BLA for the use of obexelimab for the treatment of IgG4-RD (the "Tranche B/C Approval Condition"), (3) a Tranche C Loan of \$25.0 million (less any amounts elected to be (and actually) drawn under the Tranche B Loan in excess of \$50.0 million), which will be available at the Company's election, subject to the occurrence of the Tranche B/C Approval Condition, no later than April 28, 2028, (4) a Tranche D Loan of \$50.0 million, which will be available at the Company's election no later than October 30, 2028, subject to the occurrence of the Tranche B/C Approval Condition and achievement of certain milestones in respect of net sales and (5) a Tranche E Loan of \$50.0 million, which will be available at the Company's election no later than April 30, 2029, subject to the occurrence of the Tranche B/C Approval Condition and achievement of certain milestones in respect of net sales.

The Term Loan bears interest at a rate based upon an annual interest rate of 3-month secured overnight financing rate (subject to a 3.25% floor) plus 5.75%, payable quarterly in arrears; provided that the Company may elect for 100% of the interest for the first 24 months following the Tranche A Loan funding date to be paid-in-kind without an increase in the interest rate.

Concurrent Convertible Notes Offering

Concurrently with this offering, we are conducting the Concurrent Convertible Notes Offering of the notes in the aggregate principal amount of \$200.0 million (or \$230.0 million if the underwriters in the Concurrent Convertible Notes Offering exercise their over-allotment option in full). The Concurrent Convertible Notes Offering is being made pursuant to a separate prospectus supplement.

Neither the completion of this offering nor of the Concurrent Convertible Notes Offering is contingent on the completion of the other, so it is possible that this offering occurs and the Concurrent Convertible Notes Offering does not occur, and vice versa, or neither occurs, or either offering results in lower net proceeds than we currently estimate. The Concurrent Convertible Notes Offering may not be completed on the terms described herein, or at all. This prospectus supplement and the accompanying prospectus are not an offer to sell or a solicitation of an offer to buy any securities being offered in the Concurrent Convertible Notes Offering. See "Description of Concurrent Convertible Notes Offering" for a summary of the terms of the notes and a further description of the Concurrent Convertible Notes Offering.

Our Corporate Information

We were incorporated in November 2019 as Zenas BioPharma (Cayman) Limited, an exempted company incorporated in the Cayman Islands with limited liability, and commenced operations in 2020. On August 2, 2023, the Company (then known as Zenas BioPharma (Cayman) Limited) de-registered from the Cayman Islands and registered by way of continuation in the state of Delaware. Our principal executive offices are located at 852 Winter Street, Suite 250, Waltham MA 02451, and our telephone number at that address is (857) 271-2954. Our Internet address is www.zenasbio.com. Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus supplement. We have included our website address in this prospectus supplement solely as an inactive textual reference.

Implications of Being an Emerging Growth Company and Smaller Reporting Company

We qualify as an "emerging growth company" as defined in the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies, including reduced disclosure about our executive compensation arrangements, exemption from the requirements to hold nonbinding advisory votes on executive compensation and golden parachute payments and exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions until December 31, 2029 or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company earlier if we have more than \$1.235 billion in annual revenue, we have more than \$700.0 million in market value of our stock held by non-affiliates (and we have been a public company for at least twelve months and have filed one Annual

Report on Form 10-K) or we issue more than \$1.0 billion of nonconvertible debt securities over a three year period. For so long as we remain an emerging growth company, we are permitted, and intend, to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. We may choose to take advantage of some, but not all, of the available exemptions.

In addition, the Jumpstart Our Business Startups Act of 2012, as amended (the "JOBS Act") provides that, an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected not to "opt out" of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard and will do so until such time that we either (i) irrevocably elect to "opt out" of such extended transition period or (ii) no longer qualify as an emerging growth company. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted. Therefore, the reported results of operations contained in our financial statements may not be directly comparable to those of other public companies.

We are also a "smaller reporting company," meaning that the market value of our stock held by non-affiliates was less than \$700 million and our annual revenue was less than \$100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non-affiliates is less than \$250.0 million or (ii) our annual revenue is less than \$100.0 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than \$700.0 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation. We may continue to be a smaller reporting company until the fiscal year following the determination that we no longer meet the requirements necessary to be considered a smaller reporting company.

THE OFFERING

Common stock offered by us	5,000,000 shares of our common stock.
Common stock to be outstanding immediately after this offering	59,485,518 shares. If the underwriters' option to purchase additional shares of our common stock is exercised in full, there will be 60,235,518 shares outstanding immediately after this offering.
Option to purchase additional shares of common stock	We have granted the underwriters an option to purchase, in whole or in part, for a period of 30 days from the date of this prospectus supplement, up to an additional 750,000 shares of our common stock at the public offering price set forth on the cover page of this prospectus supplement, less underwriting discounts and commissions.
Use of proceeds	<p>We estimate that the net proceeds to us from this offering will be approximately \$93.7 million, or approximately \$107.8 million if the underwriters exercise in full their option to purchase additional shares of common stock, in each case after deducting underwriting discounts and commissions and estimated offering expenses payable by us.</p> <p>We currently intend to use the net proceeds of this offering, together with the net proceeds from the Concurrent Convertible Notes Offering to support the planned U.S. commercial launch of obexelimab for the treatment of IgG4-RD, if approved, and to advance our development pipeline, including funding our ongoing and planned orelabrutinib Phase 3 clinical trials for progressive multiple sclerosis and ZB021 Phase 1 and Phase 2 clinical development, as well as for working capital and other general corporate purposes. See "Use of Proceeds" on page S-13 for additional information.</p>
Concurrent convertible notes offering	<p>Concurrently with this offering, we are conducting a public offering of the notes in the aggregate principal amount of \$200.0 million (or \$230.0 million if the underwriters in the Concurrent Convertible Notes Offering exercise their over-allotment option in full). The Concurrent Convertible Notes Offering is being conducted pursuant to a separate prospectus supplement.</p> <p>Neither the completion of this offering nor of the Concurrent Convertible Notes Offering is contingent on the completion of the other, so it is possible that this offering occurs and the Concurrent Convertible Notes Offering does not occur, and vice versa or neither occurs, or either offering results in lower net proceeds than we currently estimate. The Concurrent Convertible Notes Offering may not be completed on the terms described herein, or at all. This prospectus supplement and the accompanying prospectus are not an offer to sell or a solicitation of an offer to buy any securities being offered in the Concurrent Convertible</p>

Notes Offering. See “Description of Concurrent Convertible Notes Offering” for a summary of the terms of the notes and a further description of the Concurrent Convertible Notes Offering.

Risk factors

You should read the “Risk Factors” section beginning on page [S-8](#) of this prospectus supplement, together with the risk factors and cautionary statements described in our most recent [Annual Report on Form 10-K for the fiscal year ended December 31, 2025](#) and subsequent Quarterly Reports on Form 10-Q, incorporated by reference herein, for a discussion of certain factors to consider carefully before deciding to purchase any shares of our common stock.

The Nasdaq Global Select Market symbol

“ZBIO.”

The number of shares of our common stock that will be outstanding immediately after this offering is based on 54,485,518 shares of common stock outstanding as of December 31, 2025, and excludes:

- any shares of our common stock that may be issuable upon conversion of the notes being offered by us in the Concurrent Convertible Notes Offering;
- 10,675,615 shares of our common stock issuable upon the exercise of options to purchase shares of our common stock outstanding as of December 31, 2025, with a weighted-average exercise price of \$13.46 per share;
- 371,400 shares of our common stock issuable upon the exercise of stock options granted after December 31, 2025, with a weighted-average exercise price of \$22.68 per share;
- 599,675 shares of our common stock issuable upon the vesting of restricted stock units outstanding as of December 31, 2025;
- 87,075 shares of our common stock issuable upon the vesting of restricted stock units granted after December 31, 2025;
- 431,863 shares of our common stock reserved for issuance pursuant to future equity awards under our 2024 Equity Incentive Plan (the “2024 Plan”), which increased to 3,156,138 effective January 1, 2026, as well as any future increases in the number of shares of our common stock reserved for future issuance under the 2024 Plan;
- 1,000,000 shares of our common stock reserved for issuance pursuant to future equity awards under our 2026 Equity Inducement Plan (the “2026 Plan”), as well as any future increases in the number of shares of our common stock reserved for future issuance under the 2026 Plan;
- 773,122 shares of our common stock reserved for future issuance under our 2024 Employee Stock Purchase Plan (the “2024 ESPP”), which increased to 1,317,977 effective January 1, 2026, as well as any future increases in the number of shares of our common stock reserved for future issuance under the 2024 ESPP;
- 2,827,723 shares of our common stock issued after December 31, 2025 under our at-the-market (“ATM”) equity offering; and
- 2,000,000 shares of our common stock issuable to InnoCare Pharma Limited (“InnoCare”) as partial consideration pursuant to that certain license agreement between InnoCare and the Company, dated October 7, 2025.

Unless otherwise indicated, all information in this prospectus supplement assumes the following:

- no exercise of outstanding stock options or vesting of restricted stock units mentioned above;
- no exercise of the underwriters’ option to purchase additional shares of common stock; and

- no exercise by the underwriters in the Concurrent Convertible Notes Offering of their option to purchase additional notes in the Concurrent Convertible Notes Offering; and
- does not reflect the potential issuance of up to approximately \$96.8 million of shares of common stock that remains available for sale as of the date of this prospectus supplement under the sales agreement with Jefferies LLC (the "Sales Agreement"). We have agreed not to make any sales under the Sales Agreement until the earlier to occur of (x) the date that is 30 days following the date of this prospectus supplement and (y) the date that the underwriters in this offering exercise in full their option to purchase additional shares of our common stock from us in this offering.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before investing in our common stock, you should consider carefully the risks described below along with those in our most recent Annual Report on Form 10-K incorporated by reference in this prospectus and in any subsequent Quarterly Reports on Form 10-Q that are incorporated by reference into this prospectus supplement. For a description of these reports and documents, and information about where you can find them, see “Where You Can Find More Information” and “Incorporation of Certain Documents by Reference.” If any of the risks incorporated by reference herein or set forth below occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment.

Risks Relating to this Offering

We have broad discretion as to the use of proceeds from this offering and the proceeds from the Concurrent Convertible Notes Offering.

We will have broad discretion to use the net proceeds from the sale of shares of common stock in this offering and the Concurrent Convertible Notes Offering and investors in our common stock will be relying on the judgment of our board of directors and management regarding the application of these proceeds. Although we intend to use the net proceeds from this offering and together with the net proceeds from the Concurrent Convertible Notes Offering to support the planned U.S. commercial launch of obexelimab for the treatment of IgG4-RD, if approved, and to advance our development pipeline, including funding our ongoing and planned orelabrutinib Phase 3 clinical trials for progressive multiple sclerosis and ZB021 Phase 1 and Phase 2 clinical development, as well as for working capital and other general corporate purposes, we have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion of the allocation of net proceeds from this offering and the Concurrent Convertible Notes Offering and investors will not have the opportunity, as part of their investment decision, to assess whether the proceeds are being used appropriately. Our use of the proceeds may not improve our operating results or increase the value of the securities being offered hereby.

You will incur immediate and substantial dilution as a result of the completion of this offering.

The price per share of common stock being offered may be higher than the net tangible book value per share of our outstanding shares of common stock prior to this offering. After giving effect to the sale of our common stock in this offering in an aggregate amount of approximately \$93.7 million at a public offering price of \$20.00 per share and after deducting commissions and estimated offering expenses payable by us, new investors in this offering will incur immediate dilution of \$14.35 per share of common stock. The conversion of some or all of the notes being offering in the Concurrent Convertible Notes Offering, to the extent we deliver shares upon conversion of the notes, may result in further dilution of your investment. For a more detailed discussion of the foregoing, see the section titled “Dilution” below.

Raising additional capital may cause dilution to our stockholders, imposing restrictions on our operations or require us to relinquish rights to our product candidates.

Until such time, if ever, that we generate substantial product revenue, we expect to finance our cash needs through equity offerings, debt financings or other capital sources, including potential collaborations, licenses and other arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, stockholders’ ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect their rights as a holder of our common stock. For example, in October 2025, we closed our private placement of 6,311,030 shares of common stock for net proceeds of approximately \$111.8 million, after deducting placement agent fees and other offering costs. Any future debt or preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, selling or licensing our assets, making capital expenditures, declaring dividends or encumbering our assets to secure future indebtedness. Such restrictions could adversely impact our ability to conduct our operations and execute our business plan.

In September 2025, the Company and Royalty Pharma Investments 2019 ICAV (“Royalty Pharma”) entered into the Revenue Participation Right Purchase and Sale Agreement (the “Royalty Purchase Agreement”). The

Royalty Purchase Agreement contains covenants that impose on us certain obligations, including with respect to royalty payments, advancement of our obexelimab program and reporting of clinical, regulatory and commercial updates to Royalty Pharma and includes restrictions on intellectual property transfers and out-licenses. The Royalty Purchase Agreement also limits our ability to incur certain types of indebtedness prior to the consummation of a change of control and limits our ability to create or incur liens or dispose of certain assets related to obexelimab. The Royalty Purchase Agreement may only be terminated by mutual written agreement of Royalty Pharma and us.

Additionally, in March 2026, the Company entered into the Loan Agreement with Pharmakon and the guarantors party to such agreement. The Loan Agreement contains customary affirmative and restrictive covenants and representations and warranties. We and our subsidiaries are bound by certain affirmative covenants setting forth actions that are required during the term of the Loan Agreement, including, without limitation, certain information delivery requirements (including that consolidated financial statements delivered for and after the fiscal year ending December 31, 2026 are not subject to any qualification as to "going concern" or "scope of audit"), obligations to maintain certain insurance, and certain notice requirements. The Loan Agreement contains customary financial covenants, including (i) at all times prior to the satisfaction of the Tranche B/C Approval Condition, a minimum liquidity requirement and (ii) subject to the outstanding aggregate principal amount of Term Loans advanced under the Loan Agreement being equal to or greater than \$200.0 million a minimum trailing twelve months consolidated net revenue covenant. Additionally, we and our subsidiaries are bound by certain restrictive covenants setting forth actions that are not permitted to be taken during the term of the Loan Agreement, including, without limitation, (i) selling or disposing of assets, (ii) amending, modifying or waiving our rights under material agreements, (iii) consummating change in control transactions unless all amounts becoming due under the Loan Agreement are paid in full immediately upon (and concurrent with) the consummation of any such change in control transaction, (iv) incurring additional indebtedness, (v) incurring non-permitted liens or encumbrances on our or our subsidiaries' assets, (vi) paying dividends or making any distribution or payment on or redeeming, retiring or purchasing any equity interests, (vii) making payments on subordinated indebtedness and (viii) making investments other than permitted acquisitions and permitted investments, in each case, subject to specified exceptions including, in the case of restrictions on incurrence of additional indebtedness, the ability to incur certain convertible indebtedness and enter into certain permitted royalty financing agreements. Compliance with the covenants under the Royalty Purchase Agreement and the Loan Agreement limits our flexibility in operating our business and our ability to take actions that might otherwise be advantageous to us.

If we raise additional funds through future collaborations, licenses and other arrangements, we likely would relinquish valuable rights to our potential future revenue streams or product candidates. We also may grant licenses on terms that may not be favorable to us or that reduce the value of our common stock. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, or on acceptable terms, we would be required to delay, limit, reduce or terminate our product development efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Further, we may not be able to access a portion of our existing cash due to market conditions. If banks and financial institutions with whom we hold accounts enter receivership or become insolvent in the future in response to financial conditions affecting the banking system and financial markets, our ability to access our existing cash may be threatened and could have a material adverse effect on our business and financial condition.

Concurrent or Future sales of our common stock or equity-linked securities, including pursuant to the Concurrent Convertible Note Offering, in the public market, or the perception that such sales could occur, could cause our common stock price to fall.

Concurrently with this offering, we are conducting a public offering of notes in the aggregate principal amount of \$200.0 million (or \$230.0 million if the underwriters in the Concurrent Convertible Notes Offering exercise their over-allotment option in full). The indenture for the notes offered in the Concurrent Convertible Notes Offering will not restrict our ability to issue additional shares of our common stock or equity-linked securities in the future. We cannot predict the size of future issuances of our common stock or equity-linked securities or the effect, if any, that they may have on the market price for our common stock. The issuance and sale of substantial amounts of common stock or equity-linked securities, or the perception that such issuances and sales may occur, could adversely affect the trading price of the common stock offered hereby and the

market price of our common stock and impair our ability to raise capital through the sale of additional shares of our common stock or equity-linked securities.

Upon the completion of this offering, 59,485,518 shares of our common stock will be outstanding (or 60,235,518 shares of our common stock if the underwriters exercise their option to purchase additional shares from us in full), based on the number of shares outstanding as of December 31, 2025, all of which will be freely tradable without restriction in the public market immediately following this offering, except for those shares that are subject to lock-up restrictions or restricted pursuant to Rule 144. Sales of such shares, or the perception in the market that the holders of a large number of such shares intend to sell, could reduce the market price of our common stock significantly. In connection with this offering and the Concurrent Convertible Notes Offering, we and our executive officers, directors and certain of our stockholders have entered into lock-up agreements with representatives of the underwriters that prohibit us and our executive officers, directors and certain of our stockholders, subject to certain exceptions or receipt of the prior written consent of Jefferies LLC, which may, in its discretion, release the lock-up restrictions described above at any time without notice from disposing or pledging, or hedging against, our common stock or securities convertible into or exchangeable for shares of our common stock for periods of up to 60 days after the date of this prospectus supplement. However, all of the shares sold in this offering and the remaining shares of our common stock outstanding immediately prior to this offering will not be subject to lock-up agreements with the representatives of the underwriters and, except to the extent such shares are held by our affiliates, will be freely tradable without restriction.

The market price of our common stock may be volatile, which could result in substantial losses for investors.

Since shares of our common stock were sold in our initial public offering in September 2024 at a price of \$17.00 per share and through March 25, 2026, the closing price per share of our common stock on The Nasdaq Global Select Market has ranged from \$6.43 to \$43.17. Some of the factors that may cause the market price of our common stock to fluctuate include:

- volatility in our operating results or the failure of our operating results to meet the expectations of investors or securities analysts;
- the success of existing or new competitive product candidates or technologies;
- the timing and results of preclinical and clinical studies for any product candidates that we may develop;
- failure or discontinuation of any of our product development and research programs;
- our failure to commercialize our product candidates;
- the success of the development of companion diagnostics, if required, for use with our product candidates;
- results of preclinical studies, clinical trials, or regulatory approvals of product candidates of our competitors, or announcements about new research programs or product candidates of our competitors;
- commencement or termination of collaborations for our product development and research programs;
- regulatory or legal developments in the U.S. and other countries;
- developments or disputes concerning patent applications, issued patents, or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our research programs or product candidate that we may develop;
- the results of our efforts to develop additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines, or recommendations by securities analysts;
- announcement or expectation of additional financing efforts;
- sales or perceived potential sales of our common stock by us, our insiders or other stockholders;
- expiration of market stand-off or lock-up agreements;
- any changes to our relationship with manufacturers, suppliers, collaborators or other strategic partners;

- manufacturing or supply shortages;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in estimates or recommendations by securities analysts, if any, that cover our stock;
- press reports, whether or not true, about our business;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- changes in the structure of healthcare payment systems;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- announcement or expectation of additional financing efforts;
- the inability to obtain additional funding;
- market conditions in the pharmaceutical and biotechnology sectors;
- general global economic, industry, political and market conditions, such as changing trade policies, military conflict or war, inflation and financial institution instability, or pandemic or epidemic disease outbreaks, many of which are beyond our control; and
- the other factors described in this Risk Factors" section and elsewhere in this prospectus supplement or incorporated by reference herein, including those which are outside of our control.

In recent years, the stock market in general, and the market for pharmaceutical and biotechnology companies in particular, has experienced significant price and volume fluctuations that have often been unrelated or disproportionate to changes in the operating performance of the companies whose stock is experiencing those price and volume fluctuations. Broad market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. The market price of our common stock may decline, and investors may lose some or all of their investment. Following periods of such volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future.

Shares of our common stock will be subordinate to any senior preferred stock we may issue and to any existing and future indebtedness, including, if the Concurrent Convertible Notes Offering is consummated, the notes.

Shares of our common stock will rank junior to any shares of our senior preferred stock or shares of our senior preferred stock that we may issue in the future and to any future indebtedness we may incur, including, if the Concurrent Convertible Notes Offering is consummated, the notes, as well as to our secured obligations under the Royalty Purchase Agreement and the Loan Agreement, all creditor claims and other non-equity claims against us and our assets available to satisfy claims on us, including claims in a bankruptcy or similar proceeding.

Furthermore, unlike indebtedness, where principal and interest customarily are payable on specified due dates, in the case of our common stock, (i) dividends are payable only when and if declared by our board of directors or a duly authorized committee of our board of directors, and (ii) as a corporation, we are restricted to making dividend payments and redemption payments out of legally available assets. We have never paid a dividend on our common stock and have no current intention to pay dividends in the future. Furthermore, our common stock places no restrictions on our business or operations or on our ability to incur indebtedness or engage in any transactions, subject only to the voting rights available to our stockholders generally.

Risks Relating to the Concurrent Convertible Notes Offering

The conversion of notes could impair our financial position and liquidity.

Unless we elect to deliver solely shares of our common stock to settle the conversion of the notes (other than paying cash in lieu of delivering any fractional share), we must settle at least a portion of our conversion obligation in cash, and therefore, the conversion of notes could materially and adversely affect our financial position and liquidity. Before January 1, 2032, noteholders will have the right to convert their notes only upon the occurrence of certain events. From and after January 1, 2032, noteholders may convert their notes at any time at their election until the close of business on the scheduled trading day immediately before the maturity date. However, many of the conditions that permit the conversion of notes before January 1, 2032 are

beyond our control. We could be required to expend a significant amount of cash to settle conversions, which could significantly harm our financial position and liquidity.

This offering is not contingent on the consummation of any other financing, including the Concurrent Convertible Notes Offering.

We currently intend to use the net proceeds of this offering, together with the proceeds from the Concurrent Convertible Notes Offering, as described in "Use of Proceeds" herein. However, neither the completion of this offering nor of the Concurrent Convertible Notes Offering is contingent on the completion of the other, so it is possible that this offering occurs and the Concurrent Convertible Notes Offering does not occur, and vice versa, or neither occurs, or either offering results in lower net proceeds than we currently estimate. The Concurrent Convertible Notes Offering may not be completed on the terms described herein, or at all. This prospectus supplement and the accompanying prospectus are not an offer to sell or a solicitation of an offer to buy any securities being offered in the Concurrent Convertible Notes Offering.

The accounting method for the notes could adversely affect our reported financial condition and results.

The accounting method for reflecting the notes on our balance sheet, accruing interest expense for the notes and reflecting the underlying shares of our common stock in our reported diluted earnings per share may adversely affect our reported earnings and financial condition.

In accordance with applicable accounting standards, we expect that the notes we are offering in the Concurrent Convertible Notes Offering will be reflected as a liability on our balance sheets, with the initial carrying amount equal to the principal amount of the notes, net of issuance costs. The issuance costs will be treated as a debt discount for accounting purposes, which will be amortized into interest expense over the term of the notes. As a result of this amortization, the interest expense that we expect to recognize for the notes for accounting purposes will be greater than the cash interest payments we will pay on the notes, which will result in lower reported income.

In addition, we expect that the shares of our common stock underlying the notes will be reflected in our diluted earnings per share using the "if converted" method. Under that method, if the conversion value of the notes exceeds their principal amount for a reporting period, then we will calculate our diluted earnings per share assuming that all of the notes were converted at the beginning of the reporting period and that we issued shares of our common stock to settle the excess. The after-tax interest expense associated with the notes will not be added back to the numerator of the diluted earnings per share calculation for these purposes. However, if reflecting the notes in diluted earnings per share in this manner is anti-dilutive, or if the conversion value of the notes does not exceed their principal amount for a reporting period, then the shares of our common stock underlying the notes will not be reflected in our diluted earnings per share. The application of the if-converted method may reduce our reported diluted earnings per share, and accounting standards may change in the future in a manner that may adversely affect our diluted earnings per share.

Furthermore, if any of the conditions to the convertibility of the notes is satisfied, then we may be required under applicable accounting standards to reclassify the liability carrying value of the notes as a current, rather than a long-term, liability. This reclassification could be required even if no noteholders convert their notes and could materially reduce our reported working capital.

We have not reached a final determination regarding the accounting treatment for the notes nor the application of the if-converted method, and the description above is preliminary. Accordingly, we may account for the notes and calculate diluted earnings per share in a manner that is significantly different than described above.

Provisions in the indenture governing the notes could delay or prevent an otherwise beneficial takeover of us.

Certain provisions in the notes and the indenture governing the notes could make a third-party attempt to acquire us more difficult or expensive. For example, if a takeover constitutes a fundamental change (as will be defined in the indenture governing the notes), then, except as described in prospectus supplement related to the Concurrent Convertible Notes Offering, noteholders will have the right to require us to repurchase their notes for cash. In addition, if a takeover constitutes a make-whole fundamental change (as will be defined in the indenture governing the notes), then we may be required to temporarily increase the conversion rate. In either case, and in other cases, our obligations under the notes and the indenture could increase the cost of acquiring us or otherwise discourage a third party from acquiring us or removing incumbent management, including in a transaction that noteholders or holders of our common stock may view as favorable.

USE OF PROCEEDS

We estimate that we will receive net proceeds from this offering of approximately \$93.7 million (or approximately \$107.8 million if the underwriters' exercise their option in full to purchase additional shares from us), in each case after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

We estimate that we will receive net proceeds of approximately \$193.7 million from the Concurrent Convertible Notes Offering, if it is consummated, or approximately \$222.8 million if the underwriters in the Concurrent Convertible Notes Offering exercise their over-allotment option in full, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. However, neither the completion of this offering nor of the Concurrent Convertible Notes Offering is contingent on the completion of the other, so it is possible that this offering occurs and the Concurrent Convertible Notes Offering does not occur, and vice versa or neither occurs, or either offering results in lower net proceeds than we currently estimate. The Concurrent Convertible Notes Offering may not be completed on the terms described herein, or at all.

Based on our current operating plans, we believe that the anticipated net proceeds from this offering, together with the net proceeds from the Concurrent Convertible Notes Offering, our available cash, cash equivalents and investments, as of December 31, 2025, the \$71.5 million of net proceeds received to date in the first quarter of 2026 from sales under our ATM Program and proceeds of \$75.0 million from the first tranche under the Loan Agreement, will be sufficient to fund our operating and capital expenditures into the third quarter of 2028.

We currently intend to use the net proceeds of this offering, together with the net proceeds from the Concurrent Convertible Notes Offering to support the planned U.S. commercial launch of obexelimab for the treatment of IgG4-RD, if approved, and to advance our development pipeline, including funding our ongoing and planned orelabrutinib Phase 3 clinical trials for progressive multiple sclerosis and ZB021 Phase 1 and Phase 2 clinical development, as well as for working capital and other general corporate purposes.

We do not anticipate that the expected net proceeds from this offering, together with the net proceeds from the Concurrent Convertible Notes Offering together with our existing current cash, cash equivalents and short-term investments, will be sufficient for us to fund all of our product candidates through regulatory approval, and we will need to raise substantial additional capital to complete the development and commercialization of our product candidates. We may satisfy our future cash needs through the sale of equity securities, debt financings, working capital lines of credit, corporate collaborations or license agreements, grant funding, interest income earned on invested cash balances or a combination of one or more of these sources.

Our expected use of net proceeds from this offering, together with the net proceeds from the Concurrent Convertible Notes Offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus supplement, we cannot predict with complete certainty all of the particular uses for the net proceeds to be received upon the completion of this offering and the Concurrent Convertible Notes Offering or the actual amounts that we will spend on the uses set forth above.

Our management will have broad discretion in the application of the net proceeds from this offering, and the Concurrent Convertible Notes Offering and investors will be relying on the judgment of our management regarding the application of those net proceeds. The timing and amount of our actual expenditures will be based on many factors, including the anticipated growth of our business, and we may find it necessary or advisable to use the net proceeds for other purposes. Pending the uses described above, we plan to invest the net proceeds from this offering in treasury bills, corporate bonds, commercial paper, term deposits, bankers acceptances or deposit-based investments including, but not limited to, interest savings accounts.

DIVIDEND POLICY

We have not paid cash dividends on our common stock and do not have a current intention to pay cash dividends, we continually review our capital allocation strategies, including among other things, payment of cash dividends, share repurchase and acquisitions. Additionally, the terms of our credit facility with Pharmakon Advisors, LP restrict our ability to pay dividends under certain circumstances.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the public offering price per share of common stock you will pay in this offering and the as-adjusted net tangible book value per share of common stock after this offering. Net tangible book value per share of common stock represents our total tangible assets less total liabilities, divided by the number of shares of common stock outstanding.

As of December 31, 2025, our net tangible book value was approximately \$242.1 million, or \$4.45 per share of common stock. Net tangible book value per share represents net tangible book value divided by 54,485,518 shares of our common stock outstanding as of December 31, 2025.

After giving effect to the sale of 5,000,000 shares of our common stock at the public offering price of \$20.00 per share, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma net tangible book value as of December 31, 2025 would have been approximately \$335.9 million or approximately \$5.65 per share of common stock. This represents an immediate increase in net tangible book value per share of \$1.20 to existing stockholders and immediate dilution of \$14.35 in net tangible book value per share to new investors participating in this offering.

Dilution per share to new investors is determined by subtracting as-adjusted net tangible book value per share after this offering from the public offering price per share paid by new investors. The following table illustrates this dilution per share of common stock:

Public offering price per share	\$ 20.00
Net tangible book value per share of common stock as of December 31, 2025	\$ 4.45
Increase to net tangible book value per share of common stock attributable to investors participating in this offering	<u>\$ 1.20</u>
Pro forma net tangible book value per share as of December 31, 2025, after giving effect to this offering	<u>\$ 5.65</u>
Dilution of pro forma net tangible book value per share of common stock to new investors participating in this offering	<u><u>\$ 14.35</u></u>

If the underwriters exercise in full their option to purchase an additional 750,000 shares of common stock at the public offering price of \$20.00 per share, the as-adjusted net tangible book value after this offering would be approximately \$5.81 per share of common stock, representing an increase in net tangible book value of approximately \$0.16 per share to investors purchasing our common stock in this offering at the public offering price, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, and there would be an additional immediate dilution of approximately \$14.19 per share of common stock to investors participating in this offering.

The foregoing table and calculations (other than the historical net tangible book value calculation) are based on 54,485,518 shares of common stock outstanding as of December 31, 2025 and excludes:

- any shares of our common stock that may be issuable upon conversion of the notes being offered by us in the Concurrent Convertible Notes Offering;
- 10,675,615 shares of our common stock issuable upon the exercise of options to purchase shares of our common stock outstanding as of December 31, 2025, with a weighted-average exercise price of \$13.46 per share;
- 371,400 shares of our common stock issuable upon the exercise of stock options granted after December 31, 2025, with a weighted-average exercise price of \$22.68 per share;
- 599,675 shares of our common stock issuable upon the vesting of restricted stock units outstanding as of December 31, 2025;
- 87,075 shares of our common stock issuable upon the vesting of restricted stock units granted after December 31, 2025;

- 431,863 shares of our common stock reserved for issuance pursuant to future equity awards under our 2024 Plan, which increased to 3,156,138 effective January 1, 2026, as well as any future increases in the number of shares of our common stock reserved for future issuance under the 2024 Plan;
- 1,000,000 shares of our common stock reserved for issuance pursuant to future equity awards under our 2026 Plan, as well as any future increases in the number of shares of our common stock reserved for future issuance under the 2026 Plan;
- 773,122 shares of our common stock reserved for future issuance under our 2024 ESPP, which increased to 1,317,977 effective January 1, 2026, as well as any future increases in the number of shares of our common stock reserved for future issuance under the 2024 ESPP;
- 2,827,723 shares of our common stock issued after December 31, 2025 under our ATM equity offering; and
- 2,000,000 shares of our common stock issuable to InnoCare as partial consideration pursuant to that certain license agreement between InnoCare and the Company, dated October 7, 2025.

To the extent that outstanding rights to acquire common stock are converted, exercised or settled, investors purchasing our common stock in this offering will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities (including the notes offered in the Concurrent Convertible Notes Offering, to the extent we settle conversions thereof with shares of our common stock), the issuance of these securities could result in further dilution to our stockholders.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS OF OUR COMMON STOCK

The following is a summary of the material U.S. federal income tax considerations relating to the purchase, ownership and disposition of our common stock by Non-U.S. Holders (as defined below). This summary does not purport to be a complete analysis of all the potential tax considerations relevant to Non-U.S. Holders of our common stock. This summary is based upon the Internal Revenue Code of 1986, as amended (the "Code"), the Treasury regulations promulgated or proposed thereunder and administrative and judicial interpretations thereof, all as of the date hereof and all of which are subject to change at any time, possibly on a retroactive basis.

This discussion is limited to Non-U.S. Holders that hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). For purposes of this summary, a "Non-U.S. Holder" means a beneficial owner of our common stock that for U.S. federal income tax purposes is not classified as a partnership and is not:

- an individual who is a citizen or resident of the United States;
- a corporation or any other organization taxable as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is included in gross income for U.S. federal income tax purposes regardless of its source; or
- a trust if (1) a U.S. court is able to exercise primary supervision over the trust's administration and one or more U.S. persons have the authority to control all of the trust's substantial decisions or (2) the trust has a valid election in effect under applicable Treasury regulations to be treated as a U.S. person.

This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder's particular circumstances, including the impact of any alternative minimum tax, the special tax accounting rules under Section 451(b) of the Code, or the Medicare contribution tax on net investment income, any estate or gift tax consequences, or any state, local, or non-U.S. tax consequences. In addition, it does not address tax consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons holding our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies or other financial institutions;
- brokers, dealers or traders in securities;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships or other pass-through entities for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- tax-qualified retirement plans;
- persons who hold common stock that constitutes "qualified small business stock" under Section 1202 of the Code, or "Section 1244 stock" under Section 1244 of the Code;
- persons who acquired our common stock in a transaction subject to the gain rollover provisions of the Code (including Section 1045 of the Code);
- persons that acquired our common stock pursuant to the exercise of warrants or conversion rights under convertible instruments;

- persons who have elected to mark securities to market;
- persons that own, or have owned, actually or constructively, more than 5% of our common stock; and
- “qualified foreign pension funds” as defined in Section 897(1)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

If an entity that is classified as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of persons treated as its partners for U.S. federal income tax purposes will generally depend upon the status of the partner, the activities of the partnership, and certain determinations made at the partner level. Partnerships and other entities that are classified as partnerships for U.S. federal income tax purposes and persons holding our common stock through a partnership or other entity classified as a partnership for U.S. federal income tax purposes are urged to consult their own tax advisors.

There can be no assurance that the Internal Revenue Service (the “IRS”) will not challenge one or more of the tax consequences described herein (or that a court will not sustain such a challenge), and we have not obtained, nor do we intend to obtain, a ruling from the IRS with respect to the U.S. federal income tax consequences to a Non-U.S. Holder of the purchase, ownership or disposition of our common stock.

THIS SUMMARY IS FOR GENERAL INFORMATION ONLY AND IS NOT INTENDED TO BE TAX ADVICE. NON-U.S. HOLDERS ARE URGED TO CONSULT THEIR TAX ADVISORS CONCERNING THE U.S. FEDERAL INCOME TAXATION, STATE, LOCAL AND NON-U.S. TAXATION AND OTHER TAX CONSEQUENCES TO THEM OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK.

Distributions on Our Common Stock

We do not currently expect to make distributions with respect to our common stock. If we make a distribution of cash or property with respect to our common stock, any such distributions generally will constitute dividends for U.S. federal income tax purposes to the extent of our current and accumulated earnings and profits, if any, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will constitute a return of capital and will first reduce the holder’s adjusted tax basis in our common stock, but not below zero. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in “— Gain on Sale, Exchange or Other Taxable Disposition of Our Common Stock.” Any such distribution would also be subject to the discussion below under the section titled “— Additional Withholding and Reporting Requirements.”

Dividends paid to a Non-U.S. Holder generally will be subject to a 30% U.S. federal withholding tax unless such Non-U.S. Holder provides us or our agent, as the case may be, with the appropriate IRS Form W-8, such as:

- IRS Form W-8BEN or W-8BEN-E (or successor form) certifying, under penalties of perjury, a reduction in withholding under an applicable income tax treaty, or
- IRS Form W-8ECI (or successor form) certifying that a dividend paid on our common stock is not subject to withholding tax because it is effectively connected with a trade or business in the United States of the Non-U.S. Holder (in which case such dividend generally will be subject to regular graduated U.S. tax rates as described below).

The certification requirement described above must be provided to us or our agent prior to the payment of dividends and must be updated periodically. The certification also may require a Non-U.S. Holder that provides an IRS form or that claims treaty benefits to provide its U.S. taxpayer identification number. Special certification and other requirements apply in the case of certain Non-U.S. Holders that hold shares of our common stock through intermediaries or are pass-through entities for U.S. federal income tax purposes.

Each Non-U.S. Holder is urged to consult its own tax advisor about the specific methods for satisfying these requirements. A claim for exemption will not be valid if the person receiving the applicable form has actual knowledge or reason to know that the statements on the form are false.

If dividends are effectively connected with a trade or business in the United States of a Non-U.S. Holder (and, if required by an applicable income tax treaty, are attributable to a permanent establishment or fixed place of business maintained by such Non-U.S. Holder in the United States), the Non-U.S. Holder, although

exempt from the withholding tax described above (provided that the certifications described above are satisfied), generally will be subject to U.S. federal income tax on such dividends on a net income basis in the same manner as if it were a resident of the United States. In addition, if a Non-U.S. Holder is treated as a corporation for U.S. federal income tax purposes, the Non-U.S. Holder may be subject to an additional "branch profits tax" equal to 30% (unless reduced by an applicable income treaty) of its earnings and profits in respect of such effectively connected dividend income.

Non-U.S. Holders that do not timely provide us or our agent with the required certification, but which are eligible for a reduced rate of U.S. federal withholding tax pursuant to an income tax treaty, may obtain a refund or credit of any excess amount withheld by timely filing an appropriate claim for refund with the IRS.

Gain on Sale, Exchange or Other Taxable Disposition of Our Common Stock

Subject to the discussion below under the section titled "— Additional Withholding and Reporting Requirements," in general, a Non-U.S. Holder will not be subject to U.S. federal income tax or withholding tax on gain realized upon such holder's sale, exchange or other taxable disposition of shares of our common stock, unless (1) such Non-U.S. Holder is an individual who is present in the United States for 183 days or more in the taxable year of disposition, and certain other conditions are met, (2) we are or have been a "United States real property holding corporation," as defined in the Code (a "USRPHC"), at any time within the shorter of the five-year period preceding the disposition and the Non-U.S. Holder's holding period in the shares of our common stock, and certain other requirements are met, or (3) such gain is effectively connected with the conduct by such Non-U.S. Holder of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment or fixed place of business maintained by such Non-U.S. Holder in the United States).

If the first exception applies, the Non-U.S. Holder generally will be subject to U.S. federal income tax at a rate of 30% (or at a reduced rate under an applicable income tax treaty) on the amount by which such Non-U.S. Holder's capital gains allocable to U.S. sources exceed capital losses allocable to U.S. sources during the taxable year of the disposition. If the third exception applies, the Non-U.S. Holder generally will be subject to U.S. federal income tax with respect to such gain on a net income basis in the same manner as if it were a resident of the United States and a Non-U.S. Holder that is a corporation for U.S. federal income tax purposes may also be subject to a branch profits tax with respect to any earnings and profits attributable to such gain at a rate of 30% (or at a reduced rate under an applicable income tax treaty).

With respect to the second exception, generally, a corporation is a USRPHC only if the fair market value of its U.S. real property interests (as defined in the Code) equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. We believe that we are not, and do not anticipate becoming, a USRPHC. Even if we became a USRPHC, a Non-U.S. Holder would not be subject to U.S. federal income tax on a sale, exchange or other taxable disposition of our common stock by reason of our status as USRPHC so long as our common stock is regularly traded on an established securities market at any time during the calendar year in which the disposition occurs and such Non-U.S. Holder does not own and is not deemed to own (directly, indirectly or constructively) more than 5% of our common stock at any time during the shorter of the five year period ending on the date of disposition and the holder's holding period.

Additional Withholding and Reporting Requirements

Sections 1471 through 1474 of the Code, and related Treasury regulations (commonly referred to as "FATCA") impose a U.S. federal withholding tax of 30% on certain payments, including dividends paid on our common stock, paid to (1) a "foreign financial institution" (as defined under FATCA) unless such institution furnishes proper documentation (typically on IRS Form W-8BEN-E) evidencing either (i) an exemption from FATCA withholding, (ii) its compliance (or deemed compliance) with specified due diligence, reporting, withholding and certification obligations under FATCA or (iii) residence in a jurisdiction that has entered into an intergovernmental agreement with the United States relating to FATCA and compliance with the diligence and reporting requirements of the intergovernmental agreement and local implementing rules; or (2) a "non-financial foreign entity" (as defined under FATCA) that does not furnish proper documentation, typically on IRS Form W-8BEN-E, evidencing either (i) an exemption from FATCA or (ii) adequate information regarding substantial United States beneficial owners (as defined under FATCA) of such entity (if any). An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements.

The IRS and the Department of Treasury have issued proposed regulations on which taxpayers may rely providing that these withholding rules will not apply to the gross proceeds of a sale or other disposition of shares of our common stock. Prospective investors should consult their own tax advisors regarding the effect of FATCA on their ownership and disposition of our common stock.

Backup Withholding and Information Reporting

We must report annually to the IRS and to each Non-U.S. Holder the gross amount of the distributions on our common stock paid to the holder and the tax withheld, if any, with respect to the distributions. Non-U.S. Holders may have to comply with specific certification procedures (such as the provision of a properly completed W-8BEN or W-8BEN-E) to establish that the holder is not a United States person (as defined in the Code) in order to avoid backup withholding at the applicable rate, currently 24%, with respect to dividends on our common stock. Dividends paid to Non-U.S. Holders subject to the U.S. withholding tax, as described above under the section titled “— Distributions on Our Common Stock,” generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock by a Non-U.S. Holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a Non-U.S. Holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a Non-U.S. Holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Prospective investors should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them, including the availability of and procedure for obtaining an exemption from backup withholding.

Copies of information returns may be made available to the tax authorities of the country in which the Non-U.S. Holder resides or, in which the Non-U.S. Holder is incorporated, under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a Non-U.S. Holder can be refunded or credited against the Non-U.S. Holder's U.S. federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

DESCRIPTION OF CONCURRENT CONVERTIBLE NOTES OFFERING

Concurrently with this offering, we are conducting a public offering of 2.50% Convertible Senior Notes due 2032 in the aggregate principal amount of \$200.0 million (or \$230.0 million if the underwriters in the Concurrent Convertible Notes Offering exercise their over-allotment option in full). The notes will mature on April 1, 2032 unless earlier converted, redeemed or repurchased by us. The notes will bear interest at a rate of 2.50% per year, payable semi-annually in arrears on April 1 and October 1 of each year, beginning on October 1, 2026. Holders of the notes may convert their notes at their option only under the following circumstances: (1) during any calendar quarter (and only during such calendar quarter) commencing after the calendar quarter ending on June 30, 2026, if the last reported sale price per share of our common stock exceeds 130% of the conversion price for each of at least 20 trading days, whether or not consecutive, during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter; (2) during the five consecutive business days immediately after any 10 consecutive trading day period (such 10 consecutive trading day period, the "measurement period") in which the trading price per \$1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per share of our common stock on such trading day and the conversion rate on such trading day; (3) upon the occurrence of certain corporate events or distributions on our common stock as set forth in the indenture governing the notes; (4) if we call such notes for redemption; and (5) at any time from, and including, January 1, 2032 until the close of business on the scheduled trading day immediately before the maturity date. We will settle conversions by paying or delivering, as applicable, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election, based on the applicable conversion rate(s). The initial conversion rate is 37.7358 shares of common stock per \$1,000 principal amount of notes, which represents an initial conversion price of approximately \$26.50 per share, and is subject to adjustment to be set forth in the indenture governing the notes. If a "make-whole fundamental change" (as will be defined in the indenture governing the notes) occurs, then we will in certain circumstances increase the conversion rate for a specified period of time.

The notes will be redeemable, in whole or in part (subject to certain limitations to be described in the indenture governing the notes), at our option at any time, and from time to time, on or after April 8, 2030 and on or before the 26th scheduled trading day immediately before the maturity date, at a cash redemption price equal to the principal amount of the notes to be redeemed, plus accrued and unpaid interest, if any, to, but excluding, the redemption date, but only if the last reported sale price per share of our common stock exceeds 130% of the conversion price on (1) each of at least 20 trading days, whether or not consecutive, during the 30 consecutive trading days ending on, and including, the trading day immediately before the date we send the related redemption notice; and (2) the trading day immediately before the date we send such notice. In addition, calling any convertible note for redemption will constitute a make-whole fundamental change with respect to that convertible note, in which case the conversion rate applicable to the conversion of that convertible note will be increased in certain circumstances if it is converted after it is called for redemption.

If a "fundamental change" (as will be defined in the indenture governing the notes) occurs, then, subject to a limited exception, noteholders may require us to repurchase their notes at a cash repurchase price equal to the principal amount of the notes to be repurchased, plus accrued and unpaid interest, if any, to, but excluding, the fundamental change repurchase date.

The notes will be our general, unsecured, senior obligations and will be senior in right of payment to our future indebtedness that is expressly subordinated in right of payment to the notes, equal in right of payment with our existing and future indebtedness that is not expressly subordinated to the notes and effectively subordinated to our existing and future secured indebtedness, to the extent of the value of the collateral securing that indebtedness. The notes will be structurally subordinated to all existing and future indebtedness and other liabilities, including trade payables, and (to the extent we are not a holder thereof) preferred equity, if any, of our current or future subsidiaries.

Neither the completion of this offering nor of the Concurrent Convertible Notes Offering is contingent on the completion of the other, so it is possible that this offering occurs and the Concurrent Convertible Notes Offering does not occur, and vice versa, or neither occurs, or either offering results in lower net proceeds than we currently estimate. The Concurrent Convertible Notes Offering may not be completed on the terms described

herein, or at all. This prospectus supplement and the accompanying prospectus are not an offer to sell or a solicitation of an offer to buy any securities being offered in the Concurrent Convertible Notes Offering.

See "Use of Proceeds" for additional information regarding the use of proceeds from this offering and the Concurrent Convertible Notes Offering.

UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement, dated March 26, 2026, among us and Jefferies LLC, Evercore Group L.L.C., Citigroup Global Markets Inc. and Guggenheim Securities, LLC, as the representatives of the underwriters named below and the joint book-running managers of this offering, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the respective number of shares of common stock shown opposite its name below:

UNDERWRITER	NUMBER OF SHARES
Jefferies LLC	1,800,000
Evercore Group L.L.C.	1,200,000
Citigroup Global Markets Inc.	1,050,000
Guggenheim Securities, LLC	650,000
Wedbush Securities Inc.	300,000
Total	<u>5,000,000</u>

The underwriting agreement provides that the obligations of the several underwriters are subject to certain conditions precedent, such as the receipt by the underwriters of officers' certificates and legal opinions and approval of certain legal matters by their counsel. The underwriting agreement provides that the underwriters will purchase all of the shares of common stock if any of them are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters and certain of their controlling persons against certain liabilities, including liabilities under the Securities Act and to contribute to payments that the underwriters may be required to make in respect of those liabilities.

The underwriters have 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 underwriters are not obligated to do so, and the underwriters may discontinue any market-making activities at any time without notice in their 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 underwriters are offering the shares of common stock subject to their acceptance of the shares of common stock from us and subject to prior sale. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commission and Expenses

The underwriters have advised us that they propose to offer the shares of common stock at the initial public offering price set forth on the cover page of this prospectus supplement and to certain dealers, which may include the underwriters, at that price, less a concession not in excess of \$0.72 per share of common stock. After the offering, the public offering price and concession to dealers may be reduced by the representatives. No such reduction will change the amount of proceeds to be received by us as set forth on the cover page of this prospectus supplement.

The following table shows the public offering price, the underwriting discounts and commissions that we are to pay the underwriters and the proceeds, before expenses, to us in connection with this offering. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares of common stock.

	PER SHARE		TOTAL	
	WITHOUT OPTION TO PURCHASE ADDITIONAL SHARES	WITH OPTION TO PURCHASE ADDITIONAL SHARES	WITHOUT OPTION TO PURCHASE ADDITIONAL SHARES	WITH OPTION TO PURCHASE ADDITIONAL SHARES
Public offering price	\$ 20.00	\$ 20.00	\$100,000,000	\$ 115,000,000
Underwriting discounts and commissions paid by us	\$ 1.20	\$ 1.20	\$ 6,000,000	\$ 6,900,000
Proceeds to us, before expenses	\$ 18.80	\$ 18.80	\$ 94,000,000	\$ 108,100,000

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately \$275,000. We have also agreed to reimburse the underwriters for up to \$25,000 for their Financial Industry Regulatory Authority, Inc. ("FINRA") counsel fee. In accordance with FINRA Rule 5110, this reimbursed fee is deemed underwriting compensation for this offering.

Listing

Our common stock is listed on The Nasdaq Global Select Market under the symbol "ZBIO."

Option to Purchase Additional Shares

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus supplement, to purchase, from time to time, in whole or in part, up to an aggregate of 750,000 shares of common stock at the public offering price set forth on the cover page of this prospectus supplement, less underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to specified conditions, to purchase a number of additional shares of common stock proportionate to that underwriter's initial purchase commitment as indicated in the table above.

No Sales of Similar Securities

We and our directors and officers and certain of our stockholders have agreed that without the prior written consent of Jefferies LLC on behalf of the underwriters, we and they will not, and will not publicly disclose an intention to, during the period ending 60 days after the date of this prospectus supplement (the "restricted period"):

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- submit or file any registration statement with the SEC relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock;

whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise. In addition, we and each such person have agreed that, without the prior written consent of Jefferies LLC on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

The restrictions described in the immediately preceding paragraph do not apply to us with respect to:

- the issuance and sale of the shares of our common stock pursuant to this offering, as described in this prospectus supplement and, the notes to be sold to the underwriters and shares of common stock deliverable upon conversion of the notes pursuant to the Concurrent Convertible Notes Offering;

- shares of common stock to be sold pursuant to the Sales Agreement, following the earlier of (x) the date that is 30 days following the date of this prospectus supplement and (y) the date that the underwriters in this offering exercise in full their option to purchase additional shares of our common stock from us in this offering;
- the issuance by us of shares of common stock upon the exercise of an option or warrant or the conversion or settlement of a security outstanding on the date of this prospectus supplement that is described herein;
- grants of options, restricted stock or other equity awards and the issuance of shares of common stock or securities convertible into or exercisable for shares of common stock (whether upon the exercise of stock options or otherwise) to employees, officers, directors, advisors, or consultants of us pursuant to the terms of a plan as described in this prospectus supplement, provided that we shall cause each recipient of such grant to execute and deliver to the underwriters a lock-up agreement if such recipient has not already delivered one;
- the filing of a registration statement on Form S-8 to register shares of common stock issuable pursuant to any employee benefit plans, qualified stock option plans or other employee compensation plans, described in this prospectus supplement;
- shares of common stock or any securities convertible into, or exercisable or exchangeable for, shares of common stock, or the entrance into an agreement to issue shares of common stock or any securities convertible into, or exercisable or exchangeable for, shares of common stock, in connection with (i) the acquisition by us or any of our subsidiaries of the securities, business, property or other assets of another person or entity, including pursuant to an employee benefit or equity-based compensation plan or agreement assumed by us or any of our subsidiaries in connection with such acquisition or (ii) joint ventures, licensing arrangements, commercial relationships or other strategic transactions; provided that the aggregate number of shares of common stock issued or issuable pursuant to this clause shall not exceed ten percent of the total number of shares of common stock issued and outstanding immediately following this offering; and provided further, that the recipients of any such shares of common stock issued pursuant to this clause during the restricted period described above shall enter into a lock-up agreement on or prior to such issuance; or
- facilitating the establishment of a trading plan on behalf of a stockholder, officer or director of ours pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of common stock, *provided* that (i) such plan does not provide for the transfer of common stock during the restricted period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by us regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of common stock may be made under such plan during the restricted period.
- the 2,000,000 shares of our common stock issuable to InnoCare as partial consideration pursuant to the License Agreement.

The restrictions on transfers or other dispositions by our directors and officers and certain of our stockholders described above do not apply to:

- transactions relating to shares of common stock or other securities acquired in this offering or in open market transactions after the pricing of this offering; *provided* that no filing under Section 16(a) of the Exchange Act or other public announcement shall be required or shall be voluntarily made in connection with subsequent sales of common stock or other securities acquired in this offering or in such open market transactions;
- transfers of shares of common stock or any other securities (i) as a bona fide gift or for bona fide estate planning purposes, (ii) to an immediate family member of the holder or to any trust for the direct or indirect benefit of the holder or an immediate family member of the holder, (iii) to any corporation, partnership, limited liability company, investment fund, trust or other entity of which the holder and the immediate family of the holder are the legal and beneficial owner of all of the outstanding equity securities or similar interests, or (iv) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or an immediate family member of the holder; *provided* that in the case of any transfer or distribution pursuant to this provision, (A) each donee, distributee or transferee

shall sign and deliver a lock-up agreement, (B) no filing under Section 16(a) of the Exchange Act or other public announcement, reporting a reduction in beneficial ownership of shares of common stock, shall be voluntarily made during the restricted period, (C) other than in the case of preceding clauses (i) and (iv), no filing under Section 16(a) of the Exchange Act or other public announcement, reporting a reduction in beneficial ownership of shares of common stock, shall be required during the restricted period (other than a required filing on Schedule 13D, 13F or 13G) and, to the extent a filing under Section 16(a) of the Exchange Act is required during the restricted period as a result of transfers pursuant to clauses (i) and (iv) of this paragraph, such filing shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in clause (i) or clause (iv) hereof, respectively, and (D) such transfer shall not involve a disposition for value;

- transfers of shares of common stock or any other securities to a charitable organization or educational institution in a transaction not involving a disposition for value; *provided* that in the case of any transfer or distribution pursuant to this provision, (A) each transferee shall sign and deliver a lock-up agreement and (B) no filing under Section 16(a) of the Exchange Act or other public announcement, reporting a reduction in beneficial ownership of shares of common stock, shall be voluntarily made during the restricted period and, to the extent a Form 4 or Form 5 filing under Section 16(a) of the Exchange Act is required during the restricted period as a result of transfers made pursuant to this provision, such filing shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this provision;
- if the holder is a corporation, partnership, limited liability company, trust or other business entity, (i) transfers or distributions of shares of common stock or any other securities to current or former general or limited partners, managers or members, stockholders, other equityholders or direct or indirect affiliates (within the meaning of Rule 405 under the Securities Act) of the undersigned, or to the estates of any of the foregoing or (ii) transfers or distributions to any investment fund or other entity controlling, controlled by, managing or managed by or under common control with the holder or affiliates of the holder (including, for the avoidance of doubt, where the holder is a partnership, to its general partner or a successor partnership or fund, or any other funds managed by such partnership); *provided* that, in the case of any transfer or distribution pursuant to this provision, (A) each distributee or transferee shall sign and deliver a lock-up agreement, (B) no filing under Section 16(a) of the Exchange Act or other public announcement, reporting a reduction in beneficial ownership of shares of common stock shall be required or voluntarily made during the restricted period and (C) such transfer shall not involve a disposition for value;
- the transfer of shares of common stock or any other securities to us to satisfy any tax, including estimated tax, remittance, or other payment obligations of the holder arising in connection with a vesting event of our securities, upon the settlement of restricted stock units or the payment due for the exercise of options (including a transfer to us for the “net” or “cashless” exercise of options) or other rights to purchase our securities, in all such cases pursuant to equity awards granted under a stock incentive plan or other equity award plan of ours described herein; *provided*, that any remaining shares of common stock or securities convertible into common stock received upon such vesting, settlement or exercise shall be subject to the terms of the lock-up agreement; and *provided further*, that no filing under Section 16(a) of the Exchange Act or other public announcement, reporting a reduction in beneficial ownership of shares of common stock, shall be voluntarily made during the restricted period and, to the extent a filing under Section 16(a) of the Exchange Act is required during the restricted period as a result of transfers made pursuant to this provision, such filing shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this provision, including that (i) the securities remain subject to the terms of the lock-up agreement and (ii) that no securities were sold by the holder;
- the establishment or amendment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of common stock; *provided* that (i) such plan does not provide for the transfer of common stock during the restricted period, and (ii) to the extent a filing under Section 16(a) of the Exchange Act or other public announcement is required or voluntarily made during the restricted period by or on behalf of such director or officer or us regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of common stock may be made under such plan during the restricted period and any such filing under Section 16(a) of

the Exchange Act shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this provision;

- the transfer of shares of common stock or any other securities that occurs by operation of law pursuant to a qualified domestic order or in connection with a divorce settlement or other court order; *provided* that (i) the transferee shall sign and deliver a lock-up agreement, and (ii) to the extent a filing under Section 16(a) of the Exchange Act is required during the restricted period as a result of transfers made pursuant to this provision, such filing shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this provision;
- transfers to us in connection with the repurchase of common stock in connection with the termination of such director or officer's employment with us pursuant to contractual agreements with us as in effect as of the date of this prospectus supplement and described herein; *provided* that no filing under Section 16(a) of the Exchange Act or other public announcement, reporting a reduction in beneficial ownership of shares of common stock, shall be voluntarily made during the restricted period and, to the extent a filing under Section 16(a) of the Exchange Act is required during the restricted period as a result of transfers made pursuant to this provision, such filing shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this provision;
- the transfer of shares of common stock or any other securities pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction that is approved by our board of directors, made to all holders of common stock involving a change of control; *provided* that, in the event that the change of control is not completed, the common stock owned by the holder shall remain subject to the restrictions contained in the lock up agreement; or
- transfers with the prior written consent of Jefferies LLC on behalf of the underwriters.

Jefferies LLC in its sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time.

Stabilization

The underwriters have advised us that they, pursuant to Regulation M under the Exchange Act, and 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. Establishing short sales positions may involve either "covered" short sales or "naked" short sales.

"Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares of our common stock in this offering. The underwriters may close out any covered short position by either exercising their option to purchase additional shares of our common stock or purchasing shares of our common stock in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares.

"Naked" short sales are sales in excess of the option to purchase additional shares of our common stock. The underwriters 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 underwriters are 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 underwriters 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 underwriters to reduce a short position incurred by the underwriters in connection with the offering. Similar to other purchase transactions, the underwriters' 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 underwriters 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 are purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member.

Neither we nor any of the underwriters 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 underwriters are not obligated to engage in these activities and, if commenced, any of the activities may be discontinued at any time.

The underwriters may also engage in passive market making transactions in our common stock on The Nasdaq Global Select 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.

Settlement

We expect to deliver the shares of common stock to investors in book-entry form through the facilities of The Depository Trust Company on or about March 31, 2026, which will be the second business day following the initial trade date for the shares offered pursuant to this prospectus supplement (this settlement cycle being referred to as "T+2"). Under Rule 15c6-1 under the Exchange Act, trades in the secondary market generally are required to settle in one business day, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade the shares of common stock being offered hereby prior to the business day preceding the settlement date will be required, by virtue of the fact that the shares initially will settle T+2, to specify an alternate settlement cycle at the time of any such trade to prevent a failed settlement. Purchasers of the shares who wish to trade the shares prior to the business day preceding the settlement date should consult their own advisors.

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 one or more of the underwriters or their affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriters 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 underwriters on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriters' web sites and any information contained in any other web site maintained by any of the underwriters is not part of this prospectus supplement and the accompanying prospectus, has not been approved and/or endorsed by us or the underwriters and should not be relied upon by investors.

Other Activities and Relationships

The underwriters and certain of their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory services, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriters and certain of their respective affiliates have 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. For example, certain of the underwriters in this offering are also acting as underwriters in the Concurrent Convertible Notes Offering. In addition, on October 8, 2025, we entered into the Sales Agreement pursuant to which we may offer and sell shares of our common stock from time to time through Jefferies LLC acting as our sales agent.

In addition, in the ordinary course of their various business activities, the underwriters and certain of their 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 their own accounts and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the underwriters or their respective affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk

management policies. The underwriters and their respective affiliates may hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the common stock offered hereby. Any such short positions could adversely affect future trading prices of the common stock offered hereby. The underwriters and certain of their respective 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 hold or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Concurrent Convertible Notes Offering

Concurrently with this offering, we are conducting a public offering of \$200.0 million aggregate principal amount of the convertible notes (or up to \$230.0 million aggregate principal amount if the underwriters in the Concurrent Convertible Notes Offering exercise their over-allotment option in full). Neither the completion of this offering nor of the Concurrent Convertible Notes Offering is conditioned upon the completion of the other, so it is possible that this offering occurs and the Concurrent Convertible Notes Offering does not occur, and vice versa, or neither occurs, or either offering results in lower net proceeds than we currently estimate. The Concurrent Convertible Notes Offering may not be completed on the terms described herein, or at all. This prospectus supplement and the accompanying prospectus are not an offer to sell or a solicitation of an offer to buy any securities being offered in the Concurrent Convertible Notes Offering.

Disclaimers About Non-U.S. Jurisdictions

Australia

This prospectus supplement is not a disclosure document for the purposes of Australia's Corporations Act 2001 (Cth) of Australia, or Corporations Act, 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 prospectus supplement in Australia:

You confirm and warrant that you are either:

- a) a "sophisticated investor" under section 708(8)(a) or (b) of the Corporations Act;
- b) 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;
- c) a person associated with the Company under Section 708(12) of the Corporations Act; or
- d) 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, associated person or professional investor under the Corporations Act any offer made to you under this prospectus supplement is void and incapable of acceptance.

You warrant and agree that you will not offer any securities issued to you pursuant to this prospectus supplement for resale in Australia within 12 months of the 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 "Relevant State"), no securities have been offered or will be offered pursuant to this offering to the public in that Relevant State prior to the publication of a prospectus in relation to the securities which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that the securities may be offered to the public in that Relevant State at any time:

- (a) to any qualified investor as defined under Article 2 of the Prospectus Regulation;

- (b) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation), subject to obtaining the prior consent of the underwriters for any such offer; or
- (c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of the securities shall require the Company or any underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Regulation, supplement a prospectus pursuant to Article 23 of the Prospectus Regulation or publish an Annex IX document pursuant to Article 1(4) of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to the securities in any Relevant 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 expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

United Kingdom

No securities have been offered or will be offered pursuant to this offering to the public in the United Kingdom except that the securities may be offered to the public in the United Kingdom at any time:

- (a) where (i) the offer is conditional on the admission of the securities to trading on the London Stock Exchange plc's main market (in reliance on the exception in paragraph 6(a) of Schedule 1 of the POATR) or (ii) the securities being offered are at the time of the offer already admitted to trading on London Stock Exchange plc's main market (in reliance on the exception in paragraph 6(b) of Schedule 1 of the POATR);
- (b) to any qualified investor as defined in paragraph 15 of Schedule 1 of the POATR;
- (c) to fewer than 150 persons (other than qualified investors as defined in paragraph 15 of Schedule 1 of the POATR), subject to obtaining the prior consent of the underwriters for any such offer; or
- (d) in any other circumstances falling within Part 1 of Schedule 1 of the POATR.

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 to any person which presents sufficient information on: (a) the securities to be offered; and (b) the terms on which they are to be offered, to enable an investor to decide to buy or subscribe for the securities and the expression "POATR" means the Public Offers and Admissions to Trading Regulations 2024.

Canada

Resale Restrictions

The distribution of securities in Canada is being made only in the provinces of Ontario, Quebec, Alberta and British Columbia on a private placement basis exempt from the requirement that we prepare and file a prospectus with the securities regulatory authorities in each province where trades of these securities are made. Any resale of the securities in Canada must be made under applicable securities laws which may vary depending on the relevant jurisdiction, and which may require resales to be made under available statutory exemptions or under a discretionary exemption granted by the applicable Canadian securities regulatory authority. Purchasers are advised to seek legal advice prior to any resale of the securities.

Representations of Canadian Purchasers

By purchasing the securities in Canada and accepting delivery of a purchase confirmation, a purchaser is representing to us and the dealer from whom the purchase confirmation is received that:

- the purchaser is entitled under applicable provincial securities laws to purchase the securities without the benefit of a prospectus qualified under those securities laws as it is an "accredited investor" as defined under National Instrument 45-106—*Prospectus Exemptions*,
- the purchaser is a "permitted client" as defined in National Instrument 31-103—*Registration Requirements, Exemptions and Ongoing Registrant Obligations*,
- where required by law, the purchaser is purchasing as principal and not as agent, and
- the purchaser has reviewed the text above under Resale Restrictions.

Conflicts of Interest

Canadian purchasers are hereby notified that the underwriters are relying on the exemption set out in section 3A.3 or 3A.4, if applicable, of National Instrument 33-105—*Underwriting Conflicts* from having to provide certain conflict of interest disclosure in this document.

Statutory Rights of Action

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if the offering memorandum (including any amendment thereto) such as this document contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser of these securities in Canada should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Enforcement of Legal Rights

All of our directors and officers as well as the experts named herein may be located outside of Canada and, as a result, it may not be possible for Canadian purchasers to effect service of process within Canada upon us or those persons. All or a substantial portion of our assets and the assets of those persons may be located outside of Canada and, as a result, it may not be possible to satisfy a judgment against us or those persons in Canada or to enforce a judgment obtained in Canadian courts against us or those persons outside of Canada.

Taxation and Eligibility for Investment

Canadian purchasers of securities should consult their own legal and tax advisors with respect to the tax consequences of an investment in the securities in their particular circumstances and about the eligibility of the securities for investment by the purchaser under relevant Canadian legislation.

Language of Documents

The purchaser confirms its express wish and that it has requested that this document, all documents evidencing or relating to the sale of the securities described herein and all other related documents be drawn up exclusively in the English language. *L'acquéreur confirme sa volonté expresse et qu'il a demandé que le présent document, tous les documents attestant de la vente des titres décrits dans le présent document ou s'y rapportant ainsi que tous les autres documents s'y rattachant soient rédigés exclusivement en langue anglaise.*

Hong Kong

No securities have been offered or sold, and no securities 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 ("SFO") and any rules made under that Ordinance; or in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong ("CO") or which do not constitute an offer or invitation to the public for the purpose of the CO or the SFO. No document, invitation or advertisement relating to the securities has been issued or may 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 the 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 under that Ordinance.

This prospectus supplement has not been registered with the Registrar of Companies in Hong Kong. Accordingly, this prospectus supplement 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 prospectus supplement 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.

Israel

This prospectus supplement 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 Israel, this prospectus is being distributed only to, and is directed only at, and any offer of the securities is directed only at, (i) a limited number of persons in accordance with the Israeli Securities Law and (ii) 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 are 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.

Singapore

This prospectus supplement has not been and will not be lodged or registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus supplement and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the securities may not be 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 persons 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 pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

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

- (a) a corporation (which is not an accredited investor (as defined in 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
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the securities pursuant to an offer made under Section 275 of the SFA except:
 - (i) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
 - (ii) where no consideration is or will be given for the transfer;
 - (iii) where the transfer is by operation of law;
 - (iv) as specified in Section 276(7) of the SFA; or
 - (v) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Japan

The offering has not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948 of Japan, as amended), or FIEL, and the underwriters 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 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, or for the benefit of, any resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEL and any other applicable laws, regulations and ministerial guidelines of Japan.

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 prospectus supplement 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 prospectus supplement 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 prospectus supplement nor any other offering or marketing material relating to the offering, the Company or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this prospectus supplement will not be filed with, and the offer of the securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of the securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of the securities.

LEGAL MATTERS

The validity of the common stock being offered in this prospectus supplement will be passed on by Ropes & Gray LLP, Boston, Massachusetts. Cooley LLP, New York, New York, is representing the underwriters in connection with this offering.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our [Annual Report on Form 10-K for the year ended December 31, 2025](#), as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements), which is incorporated by reference in this prospectus supplement and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the internet at the SEC's website at www.sec.gov. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge through the internet. These filings will be available as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. You may also access these filings through our website at www.zenasbio.com.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus supplement certain information we file with it, which means that we can disclose important information about us 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 in this prospectus supplement. We incorporate by reference into this prospectus supplement the documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except for information “furnished” under Items 2.02, 7.01 or 9.01 on Form 8-K or other information “furnished” to the SEC which is not deemed filed and not incorporated in this prospectus supplement, until the termination of the offering of securities described in the applicable prospectus supplement. We hereby incorporate by reference the following documents:

- our [Annual Report on Form 10-K for the fiscal year ended December 31, 2025, filed with the SEC on March 16, 2026](#);
- our Current Reports on Form 8-K filed with the SEC on [January 5, 2026](#) and [February 13, 2026](#);
- the information specifically incorporated by reference into our [Annual Report on Form 10-K for the year ended December 31, 2025](#) from our [Definitive Proxy Statement on Schedule 14A for the 2026 Annual Meeting of Stockholders, as filed with the SEC on March 16, 2026](#); and
- the description of our common stock, which is in our registration statement on [Form 8-A, dated September 10, 2024](#), as supplemented by the description of our common stock and preferred stock contained in [Exhibit 4.3](#) to our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, filed with the SEC on March 11, 2025.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus supplement will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus supplement modifies, supersedes or replaces such statement.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

Attention: Investor Relations
Zenas BioPharma, Inc.
852 Winter Street, Suite 250
Waltham, Massachusetts 02451
(857) 271-2954
email address: IR@zenasbio.com

Copies of these filings are also available, without charge, on the SEC’s website at www.sec.gov and on our website at <https://investors.zenasbio.com> as soon as reasonably practicable after they are filed electronically with the SEC. The information on our website is not a part of this prospectus supplement and is not incorporated by reference into this prospectus supplement. We have authorized no one to provide you with any information that differs from that contained in this prospectus supplement. Accordingly, we take no responsibility for any other information that others may give you. You should not assume that the information in this prospectus supplement is accurate as of any date other than the date of the front cover of this prospectus supplement.

PROSPECTUS



**Common Stock
Preferred Stock
Warrants
Debt Securities**

We may offer and sell from time to time, in one or more series or issuances and in an amount and on terms that we will determine at the time of the respective offering, any combination of an indeterminate number of the securities described in this prospectus.

We will provide specific terms of any offering in a supplement to this prospectus. We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. Any prospectus supplement may also add, update, or change information contained in this prospectus. You should carefully read this prospectus and any amendments or prospectus supplements as well as the documents incorporated or deemed to be incorporated by reference in this prospectus before you purchase any of the securities offered hereby.

These securities may be offered and sold in the same offering or in separate offerings; to or through underwriters, dealers, and agents; or directly to purchasers. The names of any underwriters, dealers, or agents involved in the sale of our securities and their compensation will be described in the applicable prospectus supplement.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "ZBIO." On October 7, 2025, the last reported sale price of our common stock, par value \$0.0001 per share, was \$20.85 per share.

Investing in our securities involves a high degree of risk. Before making an investment decision, please read the information under the heading. See "Risk Factors" on page 5 of this prospectus, in any applicable prospectus supplement, and under similar headings in the other documents that are incorporated by reference into this 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. Any representation to the contrary is a criminal offense.

Prospectus dated October 8, 2025

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ABOUT THIS PROSPECTUS

This prospectus is part of an automatic shelf registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”) as a “well-known seasoned issuer” as defined in Rule 405 under the Securities Act of 1933, as amended (the “Securities Act”), using a “shelf” registration process. Under this shelf registration process, we may from time to time offer to sell any combination of the securities described in this prospectus in one or more offerings. Each time we sell securities under this prospectus, we will provide a prospectus supplement and, if necessary, a free writing prospectus, that will contain specific information about the terms of that offering. The prospectus supplement and, if necessary, a free writing prospectus, may also add to, update or change information contained in this prospectus. Accordingly, to the extent inconsistent, the information in this prospectus will be deemed to be modified or superseded by any inconsistent information contained in a prospectus supplement or a free writing prospectus. You should read this prospectus and the applicable prospectus supplement and any free writing prospectus carefully, including all documents incorporated herein and therein by reference, together with the additional information described below under “Where You Can Find More Information” before making an investment in our securities.

This prospectus does not include all of the information that is in the registration statement. We omitted certain parts of the registration statement from this prospectus as permitted by the SEC. We refer you to the registration statement and its exhibits for additional information about us and the securities that may be sold under this prospectus.

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 in this prospectus and any accompanying prospectus supplement or any free writing prospectus provided in connection with an offering. You must not rely upon any information or representation not contained or incorporated by reference in 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 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, if any, 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. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under “Where You Can Find More Information.”

References in this prospectus to “Zenas,” the “Company,” “we,” “us,” “our” or similar terms refer to Zenas BioPharma, Inc. and our subsidiaries on a consolidated basis, as appropriate, unless we state otherwise or the context otherwise requires. The phrase “this prospectus” refers to this prospectus and any applicable prospectus supplement, unless the context otherwise requires.

Trademarks and Tradenames

The Zenas BioPharma word mark, logo mark, and the “lightning bolt” design are trademarks of Zenas BioPharma, Inc. or its affiliated companies. This prospectus and any applicable prospectus supplement and documents incorporated by reference herein and therein contain references to our trademarks and to trademarks belonging to other entities. Each of the other trademarks, trade names and service marks included in this prospectus belongs to its respective holder. Solely for convenience, trademarks, trade names and service marks referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, trade names and service marks. We do not intend our use or display of other entities’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

ABOUT THE COMPANY

We are a clinical-stage global biopharmaceutical company committed to being a leader in the development and commercialization of transformative immunology-based therapies for patients in need. With the evolving understanding of the pathogenesis of autoimmune diseases, along with the expansion of promising immunology-based pharmacologic targets, we are building an immunology and inflammation (“I&I”) focused biopharmaceutical company. Our core business strategy combines disciplined product candidate acquisition with strategic deployment of internal expertise and effective use of external resources. We leverage our experienced executive management team and our established networks throughout the biopharmaceutical industry to identify, acquire and develop product candidates that we believe can provide superior clinical benefits to patients living with autoimmune diseases.

Our lead I&I product candidate, obexelimab, is a bifunctional monoclonal antibody designed to bind both CD19 and FcγRIIb, which are broadly present across B cell lineage, in order to inhibit the activity of cells that are implicated in many autoimmune diseases without depleting them. Based on existing clinical data generated to date, we believe that targeting B cell lineage via CD19 and FcγRIIb can inhibit B cells and has been shown to be well-tolerated.

We are developing obexelimab as a potential I&I franchise for patients in several autoimmune diseases, representing substantial commercial opportunities individually and in the aggregate. The first three indications we are pursuing include IgG4-RD through an ongoing registration-directed Phase 3 trial (the “INDIGO” trial), and systemic lupus erythematosus (the “SunStone” trial) and relapsing multiple sclerosis (the “MoonStone” trial) through ongoing Phase 2, double-blind, randomized, placebo-controlled trials. In the fourth quarter of 2024, we completed the target enrollment of the INDIGO trial and expect to report topline results from the INDIGO trial around year-end 2025. If the topline results are positive, we expect to file a Biologics License Application with the U.S. Food and Drug Administration in the first half of 2026, followed by a Marketing Authorization Application with the European Medicines Agency, and, if approved, commence the commercial launch initially in the United States and then in Europe. In the second quarter of 2025, we completed enrollment of the MoonStone trial and expect to report results from the MoonStone trial, including the 12-week primary endpoint results, early in the fourth quarter of 2025. In early 2026, we expect to decide whether and how to advance obexelimab for RMS based on a variety of factors, including our analysis of MoonStone trial data, including the 12 and 24-week data, the evolving landscape for the development of new therapies for RMS, including available therapies and regulatory endpoints, and allocation of capital. We expect to complete enrollment in the SunStone trial by around year-end 2025 and to report topline results from the SunStone trial in mid-2026. Based on the outcome of the SunStone trial, and considering other factors, we may initiate a Phase 3 program in patients with SLE in the first half of 2027.

On October 7, 2025, we entered into a License Agreement with InnoCare Pharma Inc. pursuant to which we were granted exclusive rights to develop, manufacture, and commercialize orelabrutinib, a Bruton’s Tyrosine Kinase inhibitor, for multiple sclerosis worldwide, and in all non-oncology indications worldwide excluding mainland China, Hong Kong, Macau and Taiwan (“Greater China”) and Brunei, Burma, Cambodia, Timor-Leste, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand and Vietnam (“Southeast Asia”), as well as two early-development product candidates: ZB021, an IL-17AA/AF inhibitor, in all fields of use worldwide excluding Greater China and Southeast Asia, and ZB022, a TYK2-JH2 inhibitor, in all fields of use worldwide.

Orelabrutinib, also known as ZB020, is a highly selective and central nervous system (“CNS”)-penetrant, oral small molecule BTK inhibitor. Orelabrutinib is designed to bind irreversibly to BTK with minimal off-target effects, compared to certain other BTK inhibitors, which may potentially reduce certain side effects. We believe orelabrutinib is designed to efficiently cross the blood-brain barrier, reaching therapeutic levels within the CNS to directly target inflammation in diseases like MS. In September 2025, the Phase 3 clinical trial of orelabrutinib in patients with Primary Progressive Multiple Sclerosis (“PPMS”) was initiated. In the first quarter of 2026, we plan to initiate a Phase 3 clinical trial evaluating orelabrutinib in patients with Secondary Progressive Multiple Sclerosis (“SPMS”).

ZB021 is an oral IL-17AA/AF inhibitor designed to block both IL-17AA homodimer and IL-17AF heterodimer signaling, and ZB022 is an oral, brain-penetrant TYK2-JH2 inhibitor. Subject to the results of

Investigational New Drug (“IND”)-enabling studies, we expect to submit an IND application for each of ZB021 and ZB022, and if cleared, initiate a Phase 1 clinical study in 2026 for each, with the potential for initial data in 2027.

Our principal executive offices are located at 852 Winter Street, Suite 250, Waltham, MA 02451, and our telephone number is (857) 271-2954. Our website address is: www.zenasbio.com. We have included our website address as a factual reference and do not intend it to be an active link to our website. The information that can be accessed through our website is not part of this prospectus, and investors should not rely on any such information in deciding whether to purchase our securities.

RISK FACTORS

Investing in our securities involves a high degree of risk. See “Item 1A — Risk Factors” in our most recent Annual Report on Form 10-K incorporated by reference in this prospectus and in any subsequent Quarterly Reports on Form 10-Q, as may be updated by subsequent annual, quarterly and other reports that are incorporated by reference into this prospectus and the “Risk Factors” section in the applicable prospectus supplement for a discussion of the factors you should carefully consider before deciding to purchase our securities. Before making a decision about investing in our securities, you should carefully consider these risks as well as other information we include or incorporate by reference into this prospectus and the applicable prospectus supplement. The risks and uncertainties we have described are not the only ones facing our Company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations, operating results and financial condition. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities. The discussion of risks includes or refers to forward-looking statements; you should read the explanation of the qualifications and limitations on such forward-looking statements discussed elsewhere in this prospectus.

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.

All statements other than statements of historical facts contained incorporated by reference into this prospectus are forward-looking statements. In some cases, forward-looking statements can be identified by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential,” or “continue” or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements include, but are not limited to, statements concerning:

- the commercial opportunities stemming from the development of our product candidates for multiple immunology and inflammation diseases;
- our ability to develop and, if approved, ultimately commercialize our product candidates and, with partners, our other programs;
- our ability to obtain or maintain orphan drug designation for certain of our product candidates;
- the initiation, timing, progress, results, and cost of our development programs, and our current and future preclinical and clinical studies, including statements regarding the timing of initiation and completion of our clinical trials, and the period during which the results of the trials will become available;
- the success, cost and timing of our clinical development of our product candidates;
- our ability to establish clinical differentiation of our product candidates;
- our ability to develop product candidates that have broad therapeutic potential;
- our ability to utilize our business development strategy and expertise to build a balanced portfolio;
- our ability to identify collaborations and strategic partnerships to maximize the value of our portfolio;
- our ability to build our operational and commercial capabilities for supplying and marketing our products, if approved, in key markets;
- market conditions in the biopharmaceutical sector and issuance of securities analysts’ reports or recommendations;
- the trading volume of our common stock;
- an inability to obtain additional funding;
- our ability to initiate, recruit and enroll patients in and conduct our clinical trials at the pace that we project;
- our ability to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations or warnings in the label of any of our product candidates, if approved;
- our reliance on third parties to manufacture drug substance and drug product for use in our clinical trials;
- our ability to retain and recruit key personnel;
- our ability to obtain and maintain adequate intellectual property rights;
- our expectations regarding government and third-party payor coverage and reimbursement;
- the impact of current and future healthcare reforms, including those affecting the delivery of or payment for healthcare products and services;
- our expectations regarding federal, state and foreign regulatory requirements;
- our estimates of our expenses, ongoing losses, capital requirements and our needs for or ability to obtain additional financing;

- our existing cash and the sufficiency of our existing cash and proceeds from future capital-raising efforts, if any, to fund our future operating expenses and capital expenditure requirements;
- the potential benefits of strategic collaboration agreements;
- our ability to enter into strategic collaborations or arrangements, including potential business development opportunities and potential licensing partnerships, and our ability to attract collaborators with development, regulatory and commercialization expertise;
- sales of our stock by us, our insiders or our stockholders;
- our expectations regarding the time during which we will be an emerging growth company and smaller reporting company under the Jumpstart Our Business Startups Act of 2012, as amended;
- general economic, industry, geopolitical and market conditions, such as military conflict or war, inflation and financial institution instability, tariffs and other trade measures, or pandemic or epidemic disease outbreaks, many of which are beyond our control;
- additions or departures of senior management, directors or key personnel;
- our financial performance;
- developments and projections relating to our competitors or our industry; and
- other risks and uncertainties, including those included under the section heading “Risk Factors” contained in this prospectus.

The forward-looking statements in this prospectus may prove incorrect. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of known and unknown risks, uncertainties and assumptions, including those described under the sections titled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” contained in our [Annual Report on Form 10-K for the year ended December 31, 2024, as filed with the SEC on March 11, 2025](#), any subsequent Quarterly Report on Form 10-Q, and as described or may be described in any subsequent Annual Report on Form 10-K, each incorporated by reference in this prospectus and any other documents we file with the SEC that are deemed incorporated by reference into this prospectus. In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and should not be unduly relied upon. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, these forward-looking statements should not be relied upon as guarantees of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual future results, levels of activity, performance and events and circumstances could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risks and uncertainties may emerge from time to time, and management cannot predict all risks and uncertainties. Except as required by applicable law, we do not undertake to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

USE OF PROCEEDS

Except as otherwise provided in the applicable prospectus supplement, in connection with an offering of securities pursuant to this prospectus, we currently intend to use any net proceeds we receive from the sale of any securities offered by us under this prospectus primarily for general corporate purposes. General corporate purposes may include, without limitation, research and development expenditures, preclinical and clinical development and commercialization of our product candidates, the acquisition or in-licensing of products or product candidates, business or technologies, collaborations, working capital and capital expenditures. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds. Additional information on the use of net proceeds we receive from the sale of securities covered by this prospectus may be set forth in the prospectus supplement relating to the specific offering.

PLAN OF DISTRIBUTION

We are registering securities to be sold by us under a “shelf” registration process.

If we offer any securities under this prospectus, we will amend or supplement this prospectus by means of an accompanying prospectus supplement setting forth the specific terms and conditions and other information about that offering as is required or necessary.

We may sell the securities in any of the following ways (or in any combination thereof) from time to time:

- to or through one or more underwriters;
- through dealers, who may act as agents or principal (including a block trade in which a broker or dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction);
- through one or more agents;
- through registered direct offerings;
- as part of a collaboration with a third party;
- as part of an acquisition or merger with a third party;
- through at-the-market issuances within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, or an exchange or otherwise;
- in privately negotiated transactions; or
- directly to purchasers or to a single purchaser.

The distribution of the securities by us 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 will describe the terms of the offering of the securities, including the following, as applicable:

- the terms of the securities being offered, including the public offering price of the securities and the proceeds to us;
- the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them;
- any underwriting discounts and commissions or agency fees and other items constituting underwriters’ or agents’ compensation;
- any options under which underwriters may purchase additional securities from us;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchanges on which the securities may be listed.

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 a specified date in the future. 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.

We may indemnify agents, underwriters, dealers, their affiliates, or other third parties who participate in the distribution of securities against certain liabilities, including liabilities under the Securities Act, and agree to contribute to payments which these agents, underwriters, dealers, or other third parties may be required to make. Agents, underwriters, dealers and such other third parties may be customers of, engage in transactions with, or perform services for us in the ordinary course of business. We may also use underwriters or such other third parties with whom we have a material relationship. We will describe the nature of any such relationship in the applicable prospectus supplement.

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 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. Any underwriters involved in the sale of the securities may qualify as "underwriters" within the meaning of Section 2(a)(11) of the Securities Act. In addition, the underwriters' commissions, discounts or concessions may qualify as underwriters' compensation under the Securities Act and the rules of the Financial Industry Regulatory Authority.

Our common stock is listed on The Nasdaq Global Select Market. Underwriters may make a market in our common stock, 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 development, maintenance or liquidity of any trading market for the securities.

Certain persons participating in an offering may engage in over-allotment, stabilizing transactions, short covering transactions and penalty bids in accordance with rules and regulations under the Exchange Act. Over-allotment 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 are subject to the applicable provisions of the Exchange Act and the rules and regulations under the Exchange Act, including Regulation M, which may limit the timing of purchases and sales of any of the securities offered in this prospectus by any other person. The anti-manipulation rules under the Exchange Act may apply to sales of securities in the market and to the actions of the Company.

To the extent required, this prospectus may be amended and/or supplemented from time to time to describe a specific plan of distribution.

DESCRIPTION OF COMMON STOCK

The description of our common stock is incorporated by reference to [Exhibit 4.3](#) of our Annual Report on Form 10-K for the year ended December 31, 2024, as filed with the SEC on March 11, 2025, including any amendments or reports filed for the purpose of updating such description.

DESCRIPTION OF PREFERRED STOCK

Under the terms of our second restated certificate of incorporation (our "Restated Charter"), our board of directors is authorized to issue up to 25,000,000 shares of preferred stock, par value \$0.0001 per share, in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of the holders of common stock until the board of directors determines the specific rights of the holders of preferred stock. However, effects of the issuance of preferred stock include restricting dividends on common stock, diluting the voting power of common stock, impairing the liquidation rights of common stock, and making it more difficult for a third party to acquire us, which could have the effect of discouraging a third party from acquiring, or deterring a third party from paying a premium to acquire, a majority of our outstanding voting stock.

If we offer any additional 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) and conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price (or how it will be calculated) and exchange period;
- 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; and
- any material limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the Company.

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

DESCRIPTION OF WARRANTS

We may issue warrants to purchase shares of our common stock, preferred stock and/or debt securities in one or more series together with other securities or separately, as described in each applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the applicable warrant agreements and the applicable prospectus supplement for the warrants.

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 and/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;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of the warrants, 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.

DESCRIPTION OF DEBT SECURITIES

We may issue the debt securities offered by this prospectus and any accompanying prospectus supplement 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 in effect on the date of the indenture. We have filed 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 Trust Indenture Act of 1939.

We may offer debt securities as described in this prospectus that, unless otherwise specified in the applicable prospectus supplement, will represent direct, unsecured obligations of the Company and will rank equally with all of our other unsecured indebtedness.

The applicable prospectus supplement will describe the terms and features of any debt securities which we may offer, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. The following description and any description of debt securities in the applicable prospectus supplement may not be complete and is subject to, and are qualified in their entirety by reference to, the indenture, any supplemental indentures or forms of debt securities, in each case that we will file with the SEC in connection with a public offering of debt securities.

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 the applicable 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 (which shall distinguish the debt securities of that particular series from the debt securities of any other series);
- any limit upon the aggregate principal amount of the debt securities of the series which may be authenticated and delivered under the indenture;
- the price or prices (expressed as a percentage of the principal amount thereof) at which the series of debt securities will be issued;
- the date or dates on which principal of the securities of the series is payable;
- the rate or rates (which may be fixed or variable) per annum or, if applicable, the method used to determine such rate or rates (including, but not limited to, any commodity, commodity index, stock exchange index or financial index) at which the debt securities of the series shall bear interest, if any, the date or dates from which such interest, if any, shall accrue, the date or dates on which such interest, if any, shall commence and be payable and any regular record date for the interest payable on any interest payment date;
- the place or places where the principal, interest and premium, if any, on the debt securities of the series are payable, or the method of such payment, if by wire transfer, mail or other means;
- if applicable, the period or periods within which, the price or prices at which and the terms and conditions upon which the debt securities of the series may be redeemed, in whole or in part, at our option;
- our obligation, if any, to redeem or purchase the debt securities of the series pursuant to any sinking fund or analogous provisions or at the option of a holder thereof, and the period or periods within which, the price or prices at which and the terms and conditions upon which debt securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;
- the dates, if any, on which and the price or prices at which the debt securities of the series will be repurchased by us at the option of the holders thereof, and other detailed terms and provisions of such repurchase obligations;

- if other than denominations of \$1,000 and any integral multiple thereof, the denominations in which the debt securities of the series shall be issuable;
- the forms of the debt securities of the series in bearer (if to be issued outside of the United States of America) or fully registered form (and, if in fully registered form whether the debt securities will be issuable as global securities);
- if other than the principal amount thereof, the portion of the principal amount of the debt securities of the series that shall be payable upon declaration of acceleration of the maturity thereof;
- the currency of denomination of the debt securities of the series, which may be dollars or any foreign currency, and the agency or organization, if any, responsible for overseeing such composite currency;
- the designation of the currency, currencies or currency units in which payment of the principal of, and interest and premium, if any, on the debt securities of the series will be made;
- if payments of principal of, or interest or premium, if any, on the debt securities of the series are to be made in one or more currencies or currency units other than the that or those in which such securities are denominated are, the manner in which the exchange rate with respect to such payments will be determined;
- the manner in which the amounts of payment of principal of, or interest and premium, if any, on the debt securities of the series will be determined if such amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;
- the provisions, if any, relating to any collateral provided for the debt securities of the series;
- any addition to or change in the covenants in the indenture which applies to the debt securities of the series;
- any addition to or change in the events of default which applies to any debt securities of the series, and any change in the right of the trustee or the requisite holders of such debt securities to declare the principal amount thereof due and payable;
- the terms and conditions, if any, for conversion of the debt securities into or exchange of the debt securities for shares of common stock or preferred stock of the Company that apply to debt securities of the series;
- any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to debt securities of such series;
- the terms and conditions, if any, upon which the debt securities shall be subordinated in right of payment to other indebtedness of the Company;
- if applicable, that the debt securities of the series, in whole or any specified part, shall be defeasible; and
- any other terms of the debt securities of the series (which terms shall not be inconsistent with the provisions of the indenture, except as permitted by the indenture, but which may modify or delete any provision of the indenture insofar as it applies to such series).

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.

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 applicable prospectus supplement relating to these debt securities.

Transfer and Exchange

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

- “book-entry,” 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 we issue certificated debt securities, a holder may transfer or exchange such debt securities at the trustee’s office or at the paying agent’s office or agency in accordance with the terms of the indenture. A holder 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.

A holder may effect the transfer of certificated debt securities and of the right to receive the principal of, premium, and/or interest, if any, on the certificated debt securities only by surrendering the certificate representing the certificated debt securities and having us or the trustee issue a new certificate to the new holder.

Global Securities

If we decide to issue debt securities in the form of one or more global securities, then we will register the global securities in the name of the depository for the global securities or the nominee of the depository, and the global securities will be delivered by the trustee to the depository for credit to the accounts of the holders of beneficial interests in the debt securities.

The prospectus supplement will describe the specific terms of the depository arrangement for debt securities of a series that are issued in global form. None of our Company, the trustee, any payment agent or the security registrar will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in a global debt security or for maintaining, supervising or reviewing any records relating to these beneficial ownership interests.

No Protection in the Event of Change of Control

Unless we indicate otherwise in a prospectus supplement with respect to a particular series of debt securities, the debt securities will not contain any provisions that may afford holders of debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control).

Covenants

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

Consolidation, Merger and Sale of Assets

Unless we indicate otherwise in a prospectus supplement, we will not in any transaction or series of transactions, merge or consolidate with or into, or sell, assign, convey or transfer, lease or otherwise dispose of all or substantially all of our properties and assets, unless:

- either (A) if the transaction or series of transactions is a merger or consolidation, the Company shall be the surviving person of such merger or consolidation, or (B) the person formed by such consolidation or into which the Company is merged or to which the properties and assets of the Company are transferred shall be a corporation or entity treated as a corporation for U.S. federal income tax purposes organized and existing under the laws of the United States of America, any state thereof or the District of Columbia, or a corporation or comparable legal entity treated as a corporation for U.S. federal income tax purposes organized under the laws of a foreign jurisdiction and shall expressly assume by a supplemental indenture executed and delivered to the trustee, in form reasonably satisfactory to the trustee, all of the obligations of the Company (including, without limitation, the obligation to pay the principal of, and premium and interest, if any, on, the securities and the performance of the other covenants) under the indenture as supplemented, and in each case, the indenture shall remain in full force and effect; and
- immediately before and immediately after giving effect to such transaction or series of transactions on a pro forma basis (including, without limitation, any indebtedness incurred or anticipated to be incurred in connection with or in respect of such transaction or series of transactions), no default or event of default shall have occurred and be continuing.

Events of Default

Unless otherwise specified in the applicable prospectus supplement, the following events will be events of default under the indenture with respect to debt securities of any series:

- we default in the payment of any principal of, or premium, if any, on, the debt securities when it becomes due and payable at maturity, upon acceleration, redemption or otherwise;
- we default in the payment of any interest on any debt security of a series when the same becomes due and payable, and the default continues for a period of 30 days;
- we default in observance or performance of any other covenant in the debt securities of a series or the indenture for 60 days after written notice from the trustee or the holders of not less than 25% in the aggregate principal amount of the debt securities of such series then outstanding which notice must specify the default, demand that it be remedied and state that the notice is a "Notice of Default";
- certain events involving bankruptcy, insolvency or reorganization of Zenas or any of our significant subsidiaries; and
- any other event of default provided for in such series of debt securities as may be specified in the applicable prospectus supplement.

Holders of a majority in principal amount of the debt securities of any series then outstanding have the right to waive any existing default or event of default with respect to such series or compliance with any provision of the indenture (with respect to such series) or the debt securities of such series with written notice to the trustee. Upon any such waiver, such default with respect to such series shall cease to exist, and any event of default with respect to such series arising therefrom shall be deemed to have been cured for every purpose of the indenture; but no such waiver shall extend to any subsequent or other default or event of default or impair any right consequent thereto. If an event of default (other than an event of default resulting from certain events of bankruptcy, insolvency or reorganization with respect to the Company) occurs, and is continuing, then the trustee, by written notice, or the holders of not less than 25% in aggregate principal amount of the outstanding debt securities of that series may declare that the entire principal amount, plus the premium, if any, of all the debt securities of that series then outstanding plus accrued and unpaid interest to the date of acceleration are immediately due and payable. At any time after the acceleration, but before a judgment or decree based on such acceleration is obtained by the trustee, the holders of a majority in aggregate principal amount of outstanding debt securities of such series may rescind and annul such acceleration if:

- all existing events of default (other than nonpayment of accelerated principal, premium or interest) have been cured or waived;
- all lawful interest on overdue installments of interest and overdue principal have been paid; and

- the rescission would not conflict with any judgment or decree.

In addition, if the acceleration occurs at any time when we have outstanding indebtedness which is senior to the debt securities, the payment of the principal amount of outstanding debt securities may be subordinated in right of payment to the prior payment of any amounts due under the senior indebtedness, in which case the holders of debt securities will be entitled to payment under the terms prescribed in the instruments evidencing the senior indebtedness and the indenture.

If an event of default resulting from certain events of bankruptcy, insolvency or reorganization with respect to the Company occurs, such principal, premium, if any, and interest amount with respect to all the debt securities of that series shall be due and payable immediately without any declaration or other act on the part of the trustee or the holders of the debt securities of that series.

The holders of a majority in principal amount of the outstanding debt securities of a series will have the right to waive any existing default or compliance with any provision of the indenture or the debt securities of that series and to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, subject to certain limitations specified in the indenture.

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

- the holder gives to the trustee written notice of a continuing event of default with respect to the debt securities of that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of the affected series make a written request to the trustee;
- the holder or holders offer to the trustee indemnity satisfactory to the trustee against any loss, liability or expense to be incurred in compliance with such request;
- the trustee does not comply with the request within 60 days after such request; and
- the holders of a majority in aggregate principal amount of the outstanding debt securities of the affected series do not give the trustee a direction inconsistent with such request during such 60-day period.

Modification and Waiver

From time to time, we and the trustee may, without the consent of holders of the debt securities of one or more series, amend the indenture or the debt securities of one or more series, or supplement the indenture, for certain specified purposes, including:

- to provide that the surviving entity following a change of control of Zenas permitted under the indenture will assume all of our obligations under the indenture and debt securities;
- to provide for certificated debt securities in addition to uncertificated debt securities;
- to comply with any requirements of the SEC under the Trust Indenture Act of 1939;
- to cure any mistake, ambiguity, defect or inconsistency, or make any other change that does not materially and adversely affect the rights of any holder;
- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture; and
- to evidence and provide for the acceptance of the appointment of a successor trustee under the indenture with respect to one or more series and to add to or change any of the provisions of the indenture as shall be necessary to provide for or facilitate the administration of the trusts by more than one trustee.

From time to time we and the trustee may, with the consent of holders of not less than a majority of the aggregate principal amount of an outstanding series of debt securities, amend or supplement the indenture or the debt securities series, or waive compliance in a particular instance by us with any provision

of the indenture or the debt securities. We may not, however, without the consent of each holder affected by such action, modify or supplement the indenture or the debt securities or waive compliance with any provision of the indenture or the debt securities in order to:

- reduce the amount of debt securities whose holders must consent to an amendment, supplement, or waiver to the indenture or such debt security;
- reduce the rate of or change the time for payment of interest on any of the debt securities;
- reduce the principal of or change the stated maturity of the debt securities, or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation;
- make any debt security payable in money other than that stated in the debt security;
- change the amount or time of any payment required by the debt securities or reduce the premium payable upon any redemption of the debt securities, or change the time before which no such redemption may be made;
- waive a default or event of default in the payment of the principal of, or interest or premium, if any, on any debt securities (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in principal amount of the outstanding debt securities of such series and a waiver of the payment default that resulted from such acceleration);
- waive a redemption payment with respect to any debt securities or change any provision with respect to redemption of debt securities;
- take any other action otherwise prohibited by the indenture to be taken without the consent of each holder affected by the action; or
- make any changes to the above provisions or the acceleration provisions of the indenture, except to increase any percentage of debt securities the holders of which must consent to any matter.

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

The indenture permits us, at any time, to elect to discharge our obligations with respect to one or more series of debt securities by following certain procedures described in the indenture. These procedures will allow us either:

- to defease and be discharged from any and all of our obligations with respect to any debt securities except for the following obligations (which discharge is referred to as “legal defeasance”):
 - (1) to replace temporary or mutilated, destroyed, lost or stolen debt securities;
 - (2) the rights, powers, trusts, duties and immunities of the trustee; or
 - (3) to maintain an office or agency in respect of the debt securities and to hold monies for payment in trust; or
- to be released from our obligations with respect to the debt securities under certain covenants contained in the indenture, as well as any additional covenants which may be contained in an applicable supplemental indenture (which release is referred to as “covenant defeasance”).

In order to exercise either defeasance option, we must irrevocably deposit with the trustee or other qualifying trustee, in trust for that purpose:

- money;
- U.S. Government Obligations (as described below) or Foreign Government Obligations (as described below) which through the scheduled payment of principal and interest in accordance with their terms will provide, not later than the due date of any payment, money; or
- a combination of money and/or U.S. Government Obligations and/or Foreign Government Obligations sufficient in the written opinion of a nationally-recognized firm of independent accountants to provide money;

which in each case specified above, provides an amount sufficient to pay the principal of, premium, if any, and interest, if any, on the debt securities of the series, on the scheduled due dates or on a selected date of redemption in accordance with the terms of the indenture.

In addition, defeasance may be effected only if, among other things:

- in the case of either legal or covenant defeasance, we deliver to the trustee an opinion of counsel, as specified in the indenture;
- in the case of legal defeasance, we deliver to the trustee an opinion of counsel stating that we have received from, or there has been published by, the Internal Revenue Service a ruling to the effect that, or there has been a change in any applicable federal income tax law with the effect that or there has been a change in any applicable U.S. Federal income tax law with the effect that, and such opinion shall confirm that, the holders of the outstanding debt securities of such series or persons will not recognize income, gain or loss for U.S. federal income tax purposes solely as a result of such legal defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner, including as a result of prepayment, and at the same times as would have been the case if legal defeasance had not occurred;
- in the case of covenant defeasance, we deliver to the trustee an opinion of counsel to the effect that the holders of the outstanding debt securities will not recognize income, gain or loss for U.S. federal income tax purposes as a result of covenant defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner and at the same times as would have been the case if covenant defeasance had not occurred; and
- certain other conditions described in the indenture are satisfied.

If we fail to comply with our remaining obligations under the indenture and any applicable supplemental indenture after a covenant defeasance of the indenture and any applicable supplemental indenture, and the debt securities are declared due and payable because of the occurrence of any undefeased event of default, the amount of money and/or U.S. Government Obligations and/or Foreign Government Obligations on deposit with the trustee could be insufficient to pay amounts due under the debt securities of the affected series at the time of acceleration. We will, however, remain liable in respect of these payments.

The term “U.S. Government Obligations” as used in the above discussion means direct non-callable obligations of or non-callable obligations guaranteed by the United States of America for the payment of which obligation or guarantee the full faith and credit of the United States of America is pledged.

The term “Foreign Government Obligations” as used in the above discussion means, with respect to Securities that are denominated in a foreign currency (i) direct obligations of the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged or (ii) obligations of a person controlled or supervised by or acting as an agency or instrumentality of such government the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by such government, which in either case under clauses (i) and (ii), are not callable or redeemable at the option of the issuer thereof.

Regarding the Trustee

We will identify the 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 Zenas, the indenture and the Trust Indenture Act of 1939 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 Trust Indenture Act of 1939, it must eliminate such conflict or resign.

The holders of a majority in principal amount of the then outstanding debt securities of any series may direct the time, method and place of conducting any proceeding for exercising any remedy available to the trustee. If an event of default occurs and is continuing, the trustee, in the exercise of its rights and powers, must use the degree of care and skill of a prudent person under the same circumstances in the conduct of

his or her own affairs. Subject to that provision, the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request of any of the holders of the debt securities, unless they have offered to the trustee indemnity or security against the costs, expenses and liabilities which may be incurred therein or thereby.

Governing Law

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

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including us. The address of the SEC website is www.sec.gov.

We maintain a website at www.zenasbio.com. Information contained in, or accessible through, our website is not a part of, and is not incorporated into, this prospectus, and you should not consider it part of this prospectus.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus certain information we file with it, which means that we can disclose important information about us 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 in this prospectus. We incorporate by reference into this prospectus the documents listed below and any future filings, including all filings made after the date of the filing of the registration statement of which this prospectus is part and prior to the effectiveness of such registration statement, made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except for information “furnished” under Items 2.02, 7.01 or 9.01 on Form 8-K or other information “furnished” to the SEC which is not deemed filed and not incorporated in this prospectus, until the termination of the offering of securities described in the applicable prospectus supplement. We hereby incorporate by reference the following documents:

- [our Annual Report on Form 10-K for the year ended December 31, 2024, as filed with the SEC on March 11, 2025](#);
- our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2025, as filed with the SEC on [May 15, 2025](#), and for the quarter ended June 30, 2025, as filed with the SEC on [August 12, 2025](#);
- our Current Reports on Form 8-K filed with the SEC on [June 12, 2025](#), [September 2, 2025](#) and [October 8, 2025](#);
- the information specifically incorporated by reference into our [Annual Report on Form 10-K for the year ended December 31, 2024](#) from our [Definitive Proxy Statement on Schedule 14A](#) for the 2025 Annual Meeting of Stockholders, as filed with the SEC on April 28, 2025; and
- the description of our common stock, which is in our Registration Statement on [Form 8-A](#), dated September 10, 2024, as supplemented by the description of our common stock and preferred stock contained in [Exhibit 4.3](#) to our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, filed with the SEC on March 11, 2025.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

Attention: Investor Relations
Zenas BioPharma, Inc.
852 Winter Street, Suite 250
Waltham, Massachusetts 02451
(857) 271-2954
email address: IR@zenasbio.com

Copies of these filings are also available, without charge, on the SEC’s website at www.sec.gov and on our website at <https://investors.zenasbio.com> as soon as reasonably practicable after they are filed electronically with the SEC. The information contained on our website is not a part of this prospectus.

LEGAL MATTERS

The validity of the issuance of the securities offered pursuant to this prospectus will be passed upon for us by Ropes & Gray LLP, Boston, Massachusetts. The validity of any securities will be passed upon for any underwriters or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our [Annual Report on Form 10-K for the year ended December 31, 2024](#), as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

5,000,000 Shares



Common Stock

PROSPECTUS SUPPLEMENT

Joint Book-Running Managers

Jefferies

Evercore ISI

Citigroup

Guggenheim Securities

Co-Manager

Wedbush PacGrow

March 26, 2026

Calculation of Filing Fee Tables

S-3

Zenas BioPharma, Inc.

Table 1: Newly Registered and Carry Forward Securities

Not Applicable

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial Effective Date	Filing Fee Previously Paid in Connection with Unsold Securities to be Carried Forward
Newly Registered Securities												
Fees to be Paid	1 Equity	Common Stock, par value \$0.0001 per share	457(r)	5,750,000	\$ 20.00	115,000,000.00	0.0001381	\$ 15,881.50				
Fees Previously Paid												
Carry Forward Securities												
Carry Forward Securities												
Total Offering Amounts:						\$		\$ 15,881.50				
Total Fees Previously Paid:								\$ 0.00				
Total Fee Offsets:								\$ 0.00				
Net Fee Due:								\$ 15,881.50				

Offering Note

1

(1) The registration fee is calculated in accordance with Rule 457(r) of the Securities Act and represents deferred payment of the registration fees in connection with the Registrant's registration statement on Form S-3ASR (Registration No. 333-290777) paid with the filing of this prospectus supplement.

(2) Assumes exercise in full of the underwriters' option to purchase up to 750,000 additional shares of common stock.

Table 2: Fee Offset Claims and Sources

Not Applicable

	Registrant or Filer Name	Form or Filing Type	File Number	Initial Filing Date	Filing Date	Fee Offset Claimed	Security Type Associated with Fee Offset Claimed	Security Title Associated with Fee Offset Claimed	Unsold Securities Associated with Fee Offset Claimed	Unsold Aggregate Offering Amount Associated with Fee Offset Claimed	Fee Paid with Fee Offset Source
Rules 457(b) and 0-11(a)(2)											
Fee Offset Claims											
Fee Offset Sources											
Rule 457(p)											
Fee Offset Claims											
Fee Offset Sources											

Table 3: Combined Prospectuses

Not Applicable

Security Type	Security Class Title	Amount of Securities Previously Registered	Maximum Aggregate Offering Price of Securities Previously Registered	Form Type	File Number	Initial Effective Date