

PROSPECTUS

15,151,514 Shares of Common Stock



This prospectus relates to the resale from time to time of up to an aggregate of 15,151,514 shares of common stock, par value \$0.001 per share (the “Common Stock”), of Anebulo Pharmaceuticals, Inc. by the selling stockholders identified in this prospectus (the “Selling Stockholders”), including their pledgees, assignees, donees, transferees or their respective successors-in-interest, which shares of Common Stock were purchased by the Selling Stockholders in a private placement offering that closed on December 23, 2024 (the “Private Placement”) pursuant to the terms of a securities purchase agreement, dated December 22, 2024 (the “Securities Purchase Agreement”) between us and the Selling Stockholders.

We are filing this registration statement on Form S-3, of which this prospectus forms a part, to fulfill our contractual obligations with the Selling Stockholders to provide for the resale by the Selling Stockholders of the shares of Common Stock offered hereby. See “Selling Stockholders” beginning on page 11 of this prospectus for more information about the Selling Stockholders. The registration of the shares of Common Stock to which this prospectus relates does not require the Selling Stockholders to sell any of their shares of our Common Stock. We are not offering any shares of Common Stock under this prospectus and will not receive any proceeds from the sale or other disposition of the shares of our Common Stock covered hereby.

The Selling Stockholders identified in this prospectus, or their pledgees, assignees, donees, transferees or their respective successors-in-interest, from time to time may offer and sell through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices the shares held by them directly or through underwriters, agents or broker-dealers on terms to be determined at the time of sale, as described in more detail in this prospectus. See “Plan of Distribution” beginning on page 12 of this prospectus for more information about how the Selling Stockholders may sell their respective shares of Common Stock. The Selling Stockholders may be deemed “underwriters” within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended.

In connection with the Private Placement, we have agreed to bear all of the expenses in connection with the registration of the shares pursuant to this prospectus. The Selling Stockholders will pay or assume all commissions, discounts, fees of underwriters, agents, selling brokers or dealer managers and similar expenses, if any, attributable to their respective sales of the shares of Common Stock.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

Our Common Stock is listed on the Nasdaq Capital Market under the symbol “ANEB.” On February 27, 2025, the closing price of our Common Stock on the Nasdaq Capital Market was \$1.20 per share.

Investing in our Common Stock involves risks. You should review carefully the risks and uncertainties described under the heading “Risk Factors” contained in this prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus, as described beginning on page 4 of 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. The securities are not being offered in any jurisdiction where the offer is not permitted.

The date of this prospectus is February 28, 2025

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The registration statement containing this prospectus, including the exhibits to the registration statement, provides additional information about us and the Common Stock offered under this prospectus. The registration statement, including the exhibits, can be read on our website and the website of the Securities and Exchange Commission. See “Where You Can Find More Information.”

Information contained in, and that can be accessed through our web site, www.anebulo.com, shall not be deemed to be part of this prospectus or incorporated herein by reference and should not be relied upon by any prospective investors for the purposes of determining whether to purchase the Common Stock offered hereunder.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the U.S. Securities and Exchange Commission (the “SEC”). Under this registration process, the Selling Stockholders may, from time to time, sell the securities offered by them described in this prospectus. We will not receive any proceeds from the sale by the Selling Stockholders of the securities offered by them described in this prospectus.

This prospectus provides you with a general description of the shares of Common Stock the Selling Stockholders may offer. A prospectus supplement may also add, update or change information contained in this prospectus. To the extent that any statement made in an accompanying prospectus supplement is inconsistent with statements made in this prospectus, the statements made in this prospectus will be deemed modified or superseded by those made in the accompanying prospectus supplement. You should read both this prospectus and any accompanying prospectus supplement together with the additional information described under the headings “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

Neither we nor the Selling Stockholders have authorized anyone to provide you with any information or to make any representations other than those contained, or incorporated by reference, in this prospectus, any post-effective amendment, or any applicable prospectus supplement or free-writing prospectus prepared by or on behalf of us or to which we have referred you. We and the Selling Stockholders take no responsibility for and can provide no assurance as to the reliability of any other information that others may give you. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should not assume that the information contained in this prospectus or any applicable prospectus supplement is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus or any applicable prospectus supplement is delivered, or securities are sold, on a later date.

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 the section entitled “Where You Can Find More Information.”

This prospectus and the information incorporated herein by reference include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference herein, contain, and any applicable prospectus supplement or free writing prospectus including the documents we incorporate by reference therein may contain, forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), including statements regarding our future financial condition, business strategy and plans and objectives of management for future operations. Forward-looking statements include all statements that are not historical facts. In some cases, you can identify forward-looking statements by terminology such as “believe,” “may,” “could,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “seek,” “plan,” “expect,” “should,” “would,” “potentially” or the negative of these terms or similar expressions. Forward-looking statements appear in a number of places throughout this prospectus and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things:

- our expectations regarding our capital requirements, revenue, expenses and other operating results, and needs for additional financing;
- the timing or outcome of any of our regulatory submissions;
- the timing and conduct of our clinical trials, including statements regarding the timing, progress and results of current and future nonclinical studies and clinical trials, and our research and development programs;
- the clinical utility, potential advantages and timing or likelihood of regulatory filings and approvals of selonabant (formerly ANEB-001);
- our expectations regarding future growth;
- our ability to obtain and maintain adequate intellectual property rights and adequately protect and enforce such rights;
- our ability to maintain our existing licensing arrangements and enter into and maintain other collaborations or licensing arrangements;
- our estimates regarding the commercial potential and market opportunity for our product candidates;
- the performance of our third-party suppliers and manufacturers;
- our ability to compete effectively with existing competitors and new market entrants;
- the impact on our business of economic or political events or trends; and
- the impact of governmental laws and regulations.

Discussions containing these forward-looking statements may be found, among other places, in the sections entitled “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” contained in the documents incorporated by reference herein, including our most recent Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q, as well as any amendments thereto.

These forward-looking statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that could cause our actual results, levels of activity, performance or achievement to differ materially from those expressed or implied by these forward-looking statements. We discuss in greater detail, and incorporate by reference into this prospectus in their entirety, many of these risks and uncertainties under the heading “Risk Factors” contained in the documents incorporated by reference herein. These forward-looking statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. All forward-looking statements are qualified in their entirety by this cautionary statement.

PROSPECTUS SUMMARY

This summary highlights information contained in greater detail elsewhere in this prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information you should consider in making your investment decision. You should read the entire prospectus and the documents incorporated by reference carefully before making an investment in our securities. You should carefully consider, among other things, our financial statements and the related notes and the sections entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included elsewhere in, or incorporated by

reference into, this prospectus.

Overview

We are a clinical-stage pharmaceutical company developing treatments for cannabis toxicity, such as unintentional cannabis poisoning, acute cannabinoid intoxication (“ACI”), and the broader landscape of acute cannabis-induced conditions. Our lead product candidate, selonabant (formerly ANEB-001), is intended to rapidly reverse the negative effects of cannabis toxicities and reduce time to recovery. Unintentional cannabis poisoning primarily occurs in children. Pediatric patients accidentally exposed to cannabis are at risk of serious and life-threatening outcomes including Central Nervous System (“CNS”) depression, respiratory depression, seizures, and coma. ACI in adults is characterized by signs and symptoms that may include anxiety, panic attacks, agitation, psychosis, and tachycardia. There is no approved medical treatment currently available to specifically treat ACI or unintentional cannabis poisoning or ACL, and we are not aware of any competing products that are further along in the development process than selonabant in reversing the effects of cannabinoids like delta-9-tetrahydrocannabinol, better known as THC, the principal psychoactive constituent of cannabis.

Recent Developments

Private Placement

On December 22, 2024, we entered into the Securities Purchase Agreement with the Selling Stockholders, pursuant to which we agreed to issue and sell to the Selling Stockholders, in the Private Placement an aggregate of 15,151,514 shares of Common Stock (the “Shares”) at a purchase price per share of \$0.99, equal to the Nasdaq Minimum Price, as defined in Nasdaq Listing Rule 5635(d). The Private Placement closed on December 23, 2024. We received aggregate gross proceeds from the Private Placement of approximately \$15 million, before deducting estimated offering expenses payable by the Company. We intend to use the net proceeds from the Private Placement for working capital purposes. See the section entitled “*Description of the Private Placement*” included elsewhere in this prospectus for more information.

Loan and Security Agreement

On November 13, 2023, we entered into a Loan and Security Agreement (“LSA”) with 22NW, LP and JFL Capital Management LLC, as lenders, which originally allowed us to borrow up to \$10 million as needed to fund future operations and provided that upon the draw of at least \$3 million in the aggregate, the LSA will be collateralized by substantially all of our assets. On February 10, 2025, we modified the LSA, pursuant to an Amended and Restated Loan Agreement (the LSA, as amended and restated, the “Loan Agreement”), which reduced the maximum loan advance to \$3 million and removed all securitization provisions. Pursuant to the Loan Agreement, 22NW, LP assigned all of its right, title, and interest in and to the LSA and the Loan Agreement and all rights, remedies and obligations of 22NW, LP pursuant to the LSA and the Loan Agreement to 22NW Fund, LP. The outstanding balance of the Loan Agreement will accrue interest at 0.25% per annum and no fee will be assessed on the unused balance. The Loan Agreement will terminate and all outstanding principal drawn and interest accrued owed there under shall be due and payable on February 10, 2028 (the “Maturity Date”). In addition, the Loan Agreement requires that we issue 0.03 shares of Common Stock per dollar loaned under the Loan Agreement, up to a maximum of 90,000 shares, with a minimum of 50,000 shares being issued in connection with the first advance made pursuant to the Loan Agreement. As of February 20, 2025, there was no balance outstanding under the Loan Agreement.

Corporate Information

We were incorporated in Delaware in April 2020. On May 4, 2021, we effected a 1-for-6 reverse stock split (the “Reverse Stock Split”) upon the filing of our Second Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware, as corrected by a Certificate of Correction filed with the Secretary of State of the State of Delaware on September 8, 2022. Our principal executive offices are located at 1017 Ranch Road 620 South, Suite 107, Lakeway, Texas 78734, and our telephone number is (512) 598-0931.

Available Information

Our website address is www.anebulo.com, which includes a section for investor relations. We will file Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, proxy statements and other materials with the SEC. We are subject to the informational requirements of the Exchange Act and will file or furnish reports, proxy statements and other information with the SEC. Such reports and other information filed by the Company with the SEC are available free of charge on our website at <https://ir.anebulo.com/sec-filings>. Information contained on our website is intended for informational purposes only and is not incorporated by reference into this prospectus, and it should not be considered to be part of this prospectus or the registration statement of which this prospectus forms a part. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For as long as we remain an emerging growth company, we may take advantage of specified reduced reporting requirements and other burdens that are otherwise applicable generally to other public companies. These provisions include, but are not limited to:

- reduced obligations with respect to financial data, including presenting only two years of audited financial statements and selected financial data, and only two years of related Management’s Discussion and Analysis of Financial Condition and Results of Operations disclosure in our initial registration statement;
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002, as amended;
- reduced disclosure about executive compensation arrangements in our periodic reports, registration statements and proxy statements; and
- exemptions from the requirements to seek non-binding advisory votes on executive compensation or stockholder approval of any golden parachute arrangements.

We may take advantage of some or all of these provisions until we are no longer an emerging growth company. We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year following the fifth anniversary of the completion of our initial public offering, (ii) the last day of the first fiscal year in which our annual gross revenues exceed \$1.235 billion, (iii) the date on which we have, during the immediately preceding three-year period, issued more than \$1.0 billion in non-convertible debt securities and (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC, or the SEC. We may choose to take advantage of some but not all of these reduced burdens. For example, we have taken advantage of the reduced reporting requirements with respect to disclosure regarding our executive compensation arrangements, have presented only two years of audited financial statements and only two years of related “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure in this Annual Report, and have taken advantage of the exemption from auditor attestation on the effectiveness of our internal control over financial reporting. To the extent that we take advantage of these reduced burdens, the information that we provide stockholders may be different than you might obtain from other public companies in which you hold equity interests.

In addition, the JOBS Act permits emerging growth companies to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have elected to use this extended transition period. As a result of this election, our timeline to comply with new or revised accounting standards will in many cases be delayed as compared to other public companies that are not eligible to take advantage of this election or have not made this election. Therefore, our financial statements may not be comparable to those of companies that comply with the public company effective dates for these accounting standards.

We are also a “smaller reporting company” as defined in the Exchange Act, and have elected to take advantage of certain of the scaled disclosures available to smaller reporting companies. To the extent that we continue to qualify as a “smaller reporting company” as such term is defined in Rule 12b-2 under the Exchange Act, after we cease to qualify as an emerging growth company, certain of the exemptions available to us as an “emerging growth company” may continue to be available to us as a “smaller reporting company,” including exemption from compliance with the auditor attestation requirements pursuant to SOX and reduced disclosure about our executive compensation arrangements. We will continue to qualify as a “smaller reporting company” for so long as we have a public float (i.e., the market value of common equity held by non-affiliates) of less than \$250 million as of the last business day of our most recently completed second fiscal quarter, or have annual revenue is less than \$100 million during the most recently completed fiscal year and have a public float of less than \$700 million as of the last business day of our most recently completed second fiscal quarter.

THE OFFERING

Shares of Common Stock offered by the Selling Stockholders	15,151,514 Shares
Common Stock outstanding after the Private Placement⁽¹⁾	41,084,731 shares of Common Stock
Registration Rights	Under the terms of the Securities Purchase Agreement, we agreed to file this registration statement with respect to the registration of the resale by the Selling Stockholders of the Shares by the 60 th calendar day following the date of the Securities Purchase Agreement, and to have this registration statement declared effective and to keep this registration statement effective at all times until no Selling Stockholder owns any Shares.
Use of Proceeds	The Selling Stockholders will receive all of the proceeds of the sale of the Shares offered from time to time pursuant to this prospectus. Accordingly, we will not receive any proceeds from the sale of Shares that may be sold from time to time pursuant to this prospectus. See “Use of Proceeds.”
Plan of Distribution	The Selling Stockholders named in this prospectus, or their pledgees, donees, transferees, distributees, beneficiaries or other successors-in-interest, may offer or sell the Shares offered hereby from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. The Selling Stockholders may also resell the Shares to or through underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions.
Risk Factors	See “Risk Factors” beginning on page 4 of this prospectus and in the documents incorporated by reference in this prospectus and the other information included in this prospectus for a discussion of factors you should carefully consider before investing in our securities.
Nasdaq Capital Market trading symbol	Our Common Stock is listed on the Nasdaq Capital Market under the symbol “ANEB.”

(1) The number of shares of Common Stock be outstanding after this offering is based on 41,084,731 shares of our Common Stock outstanding as of February 20, 2025, inclusive of the 15,151,514 Shares issued in the Private Placement, and excludes:

- 2,264,650 shares of Common Stock issuable as of the date hereof upon the exercise of outstanding warrants at an exercise price of \$4.215 per share;
- 2,573,481 shares of Common Stock issuable upon the exercise of outstanding stock options at a weighted-average exercise price of \$2.85 per share; and
- 70,019 shares of Common Stock available for future issuance under the 2020 Stock Incentive Plan.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should consider carefully the risks described below, together with all of the other information included or incorporated by reference in this prospectus, including the risks and uncertainties discussed under “Risk Factors” in our annual report on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K, which have been filed with the SEC and are incorporated by reference in this prospectus, as well as any updates thereto contained in subsequent filings with the SEC or any free writing prospectus, before deciding whether to purchase our securities in this offering. All of these risk factors are incorporated herein in their entirety. The risks described below and incorporated by reference are material risks currently known, expected or reasonably foreseeable by us. However, the risks described below and incorporated by reference are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business, operating results, prospects or financial condition. If any of these risks actually materialize, our business, prospects, financial condition, and results of operations could be seriously harmed. This could cause the trading price of our Common Stock to decline, resulting in a loss of all or part of your investment.

Risks Related to this Offering

Resales of our Common Stock in the public market by our stockholders as a result of this offering may be at different prices and may cause the market price of our Common Stock to fall.

We are registering for resale shares of our Common Stock. Investors who purchase shares of Common Stock in this offering at different times will likely pay different prices, and so may experience different levels of dilution and different outcomes in their investment results. The price per share of our Common Stock in this offering may result in an immediate decrease in the market price of our Common Stock. This decrease may continue after the completion of this offering. Sales of substantial amounts of our Common Stock in the public market, or the perception that such sales might occur, could adversely affect the market price of our Common Stock. The issuance of new shares of Common Stock could result in resales of our Common Stock by our current stockholders concerned about the potential ownership dilution of their holdings. Furthermore, in the future, we may issue additional shares of Common Stock or other equity or debt securities exercisable or convertible into Common Stock. Any such issuance could result in substantial dilution to our existing stockholders and could cause our stock price to decline.

We have additional securities available for issuance, which, if issued, could adversely affect the rights of the holders of our Common Stock.

We may from time-to-time issue additional shares of Common Stock or preferred stock. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, Common Stock or preferred stock. Any future issuances of Common Stock or securities convertible into Common Stock, would further dilute the percentage ownership of us held by holders of Common Stock. In addition, the issuance of certain securities, may be used as an “anti-

takeover” device without further action on the part of our stockholders, and may adversely affect the holders of the Common Stock.

Because we will not declare cash dividends on our Common Stock in the foreseeable future, stockholders must rely on appreciation of the value of our Common Stock for any return on their investment.

We have never declared or paid cash dividends on our Common Stock. We currently anticipate that we will retain all available funds and future earnings, if any, to fund the development and growth of our business and will not declare or pay any cash dividends in the foreseeable future. As a result, only appreciation of the price of our Common Stock, if any, will provide a return to investors in this offering.

Risks Related to Our Financial Position and Need for Capital

We have not generated any revenue since our inception and expect to incur future losses and may never become profitable.

We have not generated any revenue. As of December 31, 2024, we have an accumulated deficit of \$70.1 million, which includes a fair value adjustment of \$26.6 million for warrants converted into Series A preferred stock on a cashless basis in connection with our IPO. The likelihood of our future success must be considered in light of the expenses, difficulties, complications and delays often encountered by companies in clinical development, including in connection with ongoing and future clinical trials and the emergence of competing products or therapies. These potential challenges include unanticipated clinical trial delays, poor data, changes in the regulatory and competitive landscape and additional costs and expenses that may exceed current budget estimates. In order to complete certain clinical trials and otherwise operate pursuant to our current business strategy, we anticipate that we will incur increased operating expenses. In addition, we expect to incur significant losses and experience negative cash flow in the future as we fund our operating losses and capital expenditures. We recognize that if we are unable to generate sufficient revenues or source funding, we will not be able to continue operations as currently contemplated, complete planned clinical trials and/or achieve profitability. Our failure to achieve or maintain profitability will also negatively impact the value of our shares. If we are unsuccessful in addressing these risks, then we may need to curtail our business activities.

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The future success of our business cannot be determined at this time, and we do not anticipate generating revenue from product sales in the near term. In addition, we have no experience in obtaining regulatory approval for and commercializing drug products on our own and face a number of challenges with respect to development and commercialization efforts, including, among other challenges:

- having inadequate financial or other resources to complete the development of our product candidate;
- the inability to manufacture our product in commercial quantities, at an adequate quality, at an acceptable cost or in collaboration with third parties;
- experiencing delays or unplanned expenditures in product development, clinical testing or manufacturing;
- the inability to establish adequate sales, marketing and distribution channels;
- healthcare professionals may not adopt and patients may not accept our drug, if approved for marketing;
- we may not be aware of possible complications or other side effects from the use of our product since we have limited clinical experience with respect to the actual effects from use of our product;
- technological breakthroughs in reversing cannabis toxicity and treating patients experiencing intoxication symptoms may reduce the demand for our product, if it develops;
- changes in the market for reversing cannabis toxicity and treating patients experiencing intoxication symptoms, new alliances between existing market participants and the entrance of new market participants may interfere with our market penetration efforts;
- third-party payors may not agree to reimburse patients for any or all of the purchase price of our product, which may adversely affect patients’ willingness to use our product;
- uncertainty as to market demand may result in inefficient pricing of our product;
- we may face third-party claims of intellectual property infringement;
- we may fail to obtain or maintain regulatory approvals for our product in our markets or may face adverse regulatory or legal actions relating to our product even if regulatory approval is obtained; and
- we are dependent upon the results of clinical studies relating to our product and the products of our competitors. If data from a clinical trial is unfavorable, we would be reluctant to advance the product for the indication for which it was being developed.

If we are unable to meet any one or more of these challenges successfully, our ability to effectively obtain regulatory approval for and commercialize our products could be limited, which in turn could have a material adverse effect on our business, financial condition and results of operations.

We currently have no product revenue and will need to raise additional capital in the future, which may be unavailable to us or may cause dilution or place significant restrictions on our ability to operate.

We may be unable to generate sufficient revenue or cash flow to fund our operations. We expect that our cash and cash equivalents at December 31, 2024, along with the net proceeds of the Private Placement and access to funding under the Loan Agreement, will enable us to fund our current and planned operating expenses and capital expenditures into the second quarter of calendar year 2026. We have based these estimates on assumptions that may prove to be incorrect, and we may exhaust our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development of our programs, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidate. Until such time, if ever, as we can generate substantial product revenue from sales of any of our current or future product candidates, we will need to seek additional equity or debt financing or potential collaboration, license or development agreements to provide the capital required to maintain or expand our operations, continue the development of our product candidate, build our sales and marketing capabilities, promote brand identity, develop or acquire complementary technologies, products or businesses, or provide for our working capital requirements and other operating and general corporate purposes.

Other than the Loan Agreement, we currently do not have any arrangements or credit facilities as a source of funds, and we make no assurance that we will be able to raise sufficient additional capital in the future if needed on acceptable terms, or at all. Even if we draw down the entire \$3 million available under the Loan Agreement, we will still require additional funding to fund our planned operations and capital expenditures. If such financing is not available on satisfactory terms, or is not available at all, we may be required to delay, scale back or eliminate the development of our current or future product candidates and other business, seek collaborations, or amend existing collaborations, for research and development programs at an earlier stage than otherwise would be desirable or for the development of programs that we otherwise would have sought to develop independently, or on terms that are less favorable than might otherwise be available, dispose of technology assets, or relinquish or license on unfavorable terms, our rights to technologies or any future product candidates that we otherwise would seek to develop or commercialize ourselves, pursue the sale of our company to a third party at a price that may result in a loss on investment for our stockholders, file for bankruptcy or cease operations altogether. This may materially adversely affect our operations and financial condition as well as our ability to achieve business objectives and maintain competitiveness.

If we raise additional capital by issuing equity securities and/or equity-linked securities, the percentage ownership of our existing stockholders may be reduced, and accordingly these stockholders may experience substantial dilution. In addition, the Loan Agreement requires that we issue 0.03 shares of Common Stock per dollar loaned under the Loan Agreement, up to a maximum of 90,000 shares, which will result in dilution to shareholders. We may also issue equity securities and/or equity-linked securities that provide for rights, preferences and privileges senior to those of our Common Stock. Given our need for cash and that equity and equity-linked issuances are very common types of fundraising for companies like us, the risk of dilution is particularly significant for our stockholders.

Debt financing, including the Loan Agreement, could also be required to be repaid regardless of our operating results.

If we raise additional funds through collaborations and licensing arrangements, we may be required to relinquish some rights to our current or future products or revenue streams or to grant licenses on terms that are not favorable to us.

Any additional capital raising efforts may divert the attention of our management from day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates.

We cannot assure you that our Common Stock will be liquid or that it will remain listed on the Nasdaq Capital Market.

Our Common Stock is listed on the Nasdaq Capital Market. The Nasdaq Capital Market's listing standards generally mandate that we meet certain requirements relating to stockholders' equity, stock price, market capitalization, aggregate market value of publicly held shares and distribution requirements. We cannot assure you that we will be able to maintain the continued listing standards of the Nasdaq Capital Market. If we fail to satisfy the continued listing requirements of Nasdaq Capital Market, such as the corporate governance requirements, minimum bid price requirement or the minimum stockholder's equity requirement, The Nasdaq Stock Market LLC may take steps to delist our Common Stock. Any delisting would likely have a negative effect on the price of our Common Stock and would impair stockholders' ability to sell or purchase their Common Stock when they wish to do so.

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USE OF PROCEEDS

The Selling Stockholders will receive all of the proceeds of the sale of the Shares offered from time to time pursuant to this prospectus. Accordingly, we will not receive any proceeds from the sale of the Shares that may be sold from time to time pursuant to this prospectus.

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DESCRIPTION OF CAPITAL STOCK

The following description of certain terms of our capital stock does not purport to be complete and is in all respects subject to, and qualified in its entirety by reference to, the relevant provisions of our second amended and restated certificate of incorporation, as amended (the "Restated Certificate"), as well as our amended and restated bylaws (the "Restated Bylaws"), and the applicable provisions of the Delaware General Corporation Law. This information is qualified entirely by reference to the applicable provisions of our Restated Certificate, Restated Bylaws, and the Delaware General Corporation Law. Our Restated Certificate and Restated Bylaws have previously been filed as exhibits with the SEC. These documents are also incorporated by reference into the registration statement of which this prospectus forms a part.

General

Our authorized capital stock presently consists of 50,000,000 shares of Common Stock and 2,000,000 shares of preferred stock, par value \$0.001 per share.

Common Stock

Voting Rights

Each holder of our Common Stock is entitled to one vote for each share on all matters to be voted upon by the stockholders and there are no cumulative rights. Except as otherwise set forth in our Restated Certificate and Restated Bylaws or required by applicable law, in all matters other than a contested election of directors, the affirmative vote of the majority of shares of our capital stock present in person or represented by proxy at a stockholders' meeting having a quorum and entitled to vote on the subject matter shall be the act of the stockholders. In a contested election of directors, directors shall be elected by a plurality of the votes of the shares of stock present in person or represented by proxy at a stockholders' meeting having a quorum and entitled to vote on the election of directors.

Dividends

Subject to the rights of the holders of preferred stock, the holders of our Common Stock are entitled to receive ratably the dividends, if any, as may be declared from time to time by the board of directors out of legally available funds.

Liquidation

In the event of our voluntary or involuntary liquidation, dissolution or winding-up, the holders of our Common Stock shall be entitled to share in our assets remaining after the payment of liabilities and any preferential rights of any outstanding preferred stock.

Rights and Preferences

Holders of our Common Stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to the Common Stock. All outstanding shares of our Common Stock are fully paid and non-assessable. The rights, preferences and privileges of the holders of our Common Stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Preferred Stock

Our board of directors may, without further action by our stockholders, fix the rights, preferences, privileges, and restrictions of up to an aggregate of 2,000,000 shares of our preferred stock in one or more series and authorize their issuance. These rights, preferences and privileges could include voting rights, dividend rights, conversion rights, redemption privileges, liquidation preferences, sinking fund terms, and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of our Common Stock. The issuance of our preferred stock could adversely affect the voting power of holders of our Common Stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deterring or preventing a change of control or other corporate action.

Effect of Certain Provisions of our Restated Certificate and Restated Bylaws and the Delaware Anti-Takeover Statute

Certain provisions of Delaware law, our Restated Certificate and Restated Bylaws contain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, may have the effect of discouraging coercive takeover practices and inadequate takeover bids. These provisions are also designed, in part, to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us because negotiation of these proposals could result in an improvement of their terms.

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No cumulative voting

The Delaware General Corporation Law (“DGCL”) provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless our certificate of incorporation provides otherwise. Our Restated Certificate and Restated Bylaws do not provide for cumulative voting in the election of directors.

Undesignated preferred stock

The ability to authorize undesignated preferred stock makes it possible for our board of directors to issue one or more series of preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of us.

Calling of special meetings of stockholders and action by written consent

Our Restated Certificate and Restated Bylaws provide that, except as otherwise expressly provided by the terms of any series of our preferred stock or applicable law, a special meeting of stockholders for any purpose may be called only by our board of directors, chairman of our board of directors, our chief executive officer or our president and no other persons. Our Restated Certificate provides that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and may not be effected by any consent in writing by the stockholders.

Requirements for advance notification of stockholder nominations and proposals

Our Restated Bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of our board of directors. However, our Restated Bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer’s own slate of directors or otherwise attempting to obtain control of us.

Classified Board of Directors

The provisions in our Restated Certificate relating to a classified board of directors may have the effect not only of discouraging attempts by others to buy our company, but also of making it more difficult or impossible for existing stockholders to make management changes. A classified board, which is made up of directors elected for staggered terms, while promoting stability in the membership of our board of directors and management, also moderates the pace of any change in control of our board of directors by extending the time required to elect a majority, effectively requiring action in at least two annual meetings.

Amendment of Restated Bylaws

Our board of directors may alter, amend or repeal our Restated Bylaws, in whole or in part, or adopt new bylaws. Stockholders may alter, amend, or repeal our Restated Bylaws, in whole or in part, or adopt new bylaws by, in addition to any vote of the holders of any class or series of our capital stock required by law or our Restated Certificate, the affirmative vote of the holders of a majority of the shares of our capital stock present in person or represented by proxy at a stockholders’ meeting having a quorum and entitled to vote thereon; provided, however, that amendments to certain provisions of our Restated Bylaws require the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then outstanding shares of the capital stock of the corporation entitled to vote generally in the election of directors, voting together as a single class.

Election and Removal of Directors

The DGCL provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless our certificate of incorporation provides otherwise. Our Restated Certificate does not expressly provide for cumulative voting. Directors may be removed, but only for cause, upon the affirmative vote of holders of at least 75% of the voting power of the outstanding shares of our capital stock then entitled to vote at an election of directors, voting together as a single class, in addition to any vote of holders of any class or series of our capital stock required by law or our Restated Certificate. In addition, under our Restated Certificate, our board of directors are divided into three classes of directors, each of which hold office for a three-year term. The existence of a classified board could delay a successful tender offeror from obtaining majority control of our board of directors, and the prospect of that delay might deter a potential offeror.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the DGCL (“Section 203”). In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

A Delaware corporation may “opt out” of these provisions with an express provision in its original certificate of incorporation or an express provision in its amended and restated certificate of incorporation or amended and restated bylaws resulting from a stockholders’ amendment approved by at least a majority of the outstanding voting shares. We have not opted out of these provisions. As a result, mergers or other takeover or change in control attempts of us may be discouraged or prevented.

Choice of Forum

Our Restated Certificate provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by our directors, officers or other employees to us or to our stockholders, (iii) any action asserting a claim against us or any of our directors, officers or other employees arising pursuant to any provision of the DGCL, our Restated Certificate or Restated Bylaws or (iv) any action asserting a claim governed by the internal affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court having personal jurisdiction over the indispensable parties named as defendants; provided that these provisions of our Restated Certificate do not apply to suits brought to enforce a duty or liability created by the Securities Act, the Exchange Act, or any other claim for which the federal courts have exclusive jurisdiction. Our Restated Certificate further provides that the federal district courts of the United States of America is the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, unless we consent in writing to the selection of an alternative forum.

Other Limitations on Stockholder Actions

Our Restated Bylaws also impose some procedural requirements on stockholders who wish to:

- make nominations in the election of directors; or
- propose any other business to be brought before an annual meeting of stockholders.

Under these procedural requirements, in order to bring a proposal before a meeting of stockholders, a stockholder must deliver timely notice of a proposal pertaining to a proper subject for presentation at the meeting to our corporate secretary containing, among other things, the following:

- the stockholder's name and address;
- the number of shares beneficially owned by the stockholder;
- the names of all persons with whom the stockholder is acting in concert and a description of all arrangements and understandings with those persons;
- a description of the business or nomination to be brought before the meeting and the reasons for conducting such business at the meeting; and
- any material interest of the stockholder in such business.

Our Restated Bylaws set out the timeliness requirements for delivery of notice.

In order to submit a nomination for our board of directors, a stockholder must also submit any information with respect to the nominee that we would be required to include in a proxy statement, as well as some other information. If a stockholder fails to follow the required procedures, the stockholder's proposal or nominee will be ineligible and will not be voted on by our stockholders.

Exchange Listing

Our Common Stock is listed on the Nasdaq Capital Market under the trading symbol "ANEB."

Transfer Agent and Registrar

The transfer agent and registrar for our Common Stock is Continental Stock Transfer & Trust Company. The transfer agent and registrar's address is 1 State Street, 30th Floor, New York, NY 10004.

DESCRIPTION OF THE PRIVATE PLACEMENT

On December 22, 2024, we entered into the Securities Purchase Agreement with certain institutional accredited investors, including 22NW Fund, LP ("22NW"), a greater than 5% stockholder of our company that is controlled by Aron English, one of our directors (the Selling Stockholders), pursuant to which we agreed to issue and sell to the Selling Stockholders, in the Private Placement, priced at-the-market consistent with the rules of the Nasdaq Stock Market LLC, an aggregate of 15,151,514 Shares. The purchase price per Share was \$0.99.

The Private Placement closed on December 23, 2024. We received aggregate gross proceeds from the Private Placement of approximately \$15.0 million, before deducting estimated offering expenses payable by us. We intend to use the net proceeds from the Private Placement for working capital purposes.

Pursuant to the Securities Purchase Agreement, we agreed to register for resale the Shares held by the Selling Stockholders (the "Registrable Securities") and agreed to file a registration statement covering the resale of the Shares by the Selling Stockholders of the Registrable Securities within 60 days following the date of the Securities Purchase Agreement and to cause such registration statement to become effective and to keep such registration effective at all times until such time that no Selling Stockholder owns Shares.

As a result of the issuance, because the number of issued and outstanding shares of Common Stock held of record by Mr. English and beneficially owned by Mr. English following the Private Placement exceeds 50% of all issued and outstanding shares of Common Stock, Mr. English now has voting power over a majority of the outstanding shares of Common Stock, and a change of control of our company may be deemed to have occurred as a result of the Private Placement.

The foregoing description of the Securities Purchase Agreement does not purport to be complete and is qualified in its entirety by reference to such agreement, a copy of which is filed as an exhibit to the registration statement of which this prospectus forms a part, and is incorporated by reference herein.

SELLING STOCKHOLDERS

The Shares are being offered by the Selling Stockholders. For additional information regarding the issuance of the Shares, see "Description of the Private Placement" elsewhere in this prospectus. We are registering the Shares in order to permit the Selling Stockholders to offer the Shares for resale from time to time. Except for the ownership of the Shares, the Selling Stockholders have not had any material relationship with us within the past three years, except that 22NW is a greater than 5% stockholder of our company that is controlled by Aron English, one of our directors, 22NW is a co-lender pursuant to the Loan Agreement, and each of the Selling Stockholders were holders of our securities prior to the Private Placement, having purchased shares of Common Stock in our initial public offering and/or having purchased units in a private placement offering that was consummated in September 2022, each unit consisting of one share of Common Stock and a warrant to purchase one share of Common Stock. Please see the section "Description of the Private Placement" included elsewhere in this prospectus for further information regarding the Private Placement.

The table below lists the Selling Stockholders and other information regarding the beneficial ownership of Common Stock by each of the Selling Stockholders. The second column lists the number of shares of Common Stock beneficially owned by the Selling Stockholders, based on its ownership of Common Stock, including the Shares purchased

pursuant to the Securities Purchase Agreement, as of February 20, 2025. For purposes of the beneficial ownership calculations in the Selling Stockholder table below, we had 41,084,731 shares of Common Stock outstanding as of February 20, 2025, which includes the 15,151,514 Shares issued to the Selling Stockholders in the Private Placement.

The third column lists the maximum number of Shares being offered by this prospectus by the Selling Stockholders. The fourth and fifth columns assume the sale of all of the Shares offered by the Selling Stockholders pursuant to this prospectus.

The Selling Stockholders may sell all, some or none of their Shares in this offering. See “Plan of Distribution.”

Name of Selling Stockholders	Number of Shares of Common Stock Beneficially Owned Prior to Offering	Maximum Number of Shares of Common Stock to be Sold in this Offering	Number of Shares of Common Stock Beneficially Owned After Offering	Percentage of Shares Beneficially Owned after Offering⁽¹⁾
22NW Fund, LP ⁽¹⁾	17,170,877	10,101,010	7,069,867	12.5%
Nantahala Capital Partners Limited Partnership ⁽²⁾⁽⁶⁾	803,772	623,960	179,812	*
NCP RFM LP ⁽³⁾⁽⁶⁾	460,870	223,852	237,018	*
Blackwell Partners LLC – Series A ⁽⁴⁾⁽⁶⁾	2,282,756	1,677,440	605,316	1.5%
The Mangrove Partners Master Fund, Ltd. ⁽⁵⁾	2,924,471	2,525,252	399,219	1.0%

* less than 1%

- (1) The shares listed in the second column include: (i) 15,467,300 shares of Common Stock owned by 22NW Fund, LP, inclusive of the 10,101,010 Shares purchased in the Private Placement; and (ii) 1,703,577 shares of Common Stock issuable pursuant to warrants exercisable within 60 days held by 22NW Fund, LP. The warrants are subject to a beneficial ownership limitation of 12,000,000 shares, which restricts 22NW Fund, LP from exercising that portion of the warrants that would result in it and its affiliates owning, after exercise, a number of shares of Common Stock in excess of 12,000,000 shares of Common Stock. The number of shares set forth in the second column of the above table does not reflect the application of this limitation. The securities are directly held by 22NW Fund, LP and may be deemed to be beneficially owned by Aron English, as the Managing Director of 22NW Fund LP. The securities beneficially owned by 22NW Fund, LP does not include: (i) 127,900 shares of Common Stock issuable pursuant to options held by Mr. English that are exercisable within 60 days of February 20, 2025; and (ii) 4,654,528 shares of Common Stock owned by Pharma Investors, LLC, of which Mr. English is the owner. The address of 22NW Fund, LP is 509 1st Avenue S, Seattle, Washington 98104.
- (2) The shares listed in the second column include: (i) 713,866 shares of Common Stock owned by Nantahala Capital Partners Limited Partnership, inclusive of the 623,960 Shares purchased in the Private Placement, and (ii) 89,906 shares of Common Stock issuable pursuant to warrants held by Nantahala Capital Partners Limited Partnership. The warrants are subject to a beneficial ownership limitation of 9.99%, which restricts Nantahala Capital Partners Limited Partnership from exercising that portion of the warrants that would result in it and its affiliates owning, after exercise, a number of shares of Common Stock in excess of the beneficial ownership limitation.
- (3) The shares listed in the second column include: (i) 342,361 shares of Common Stock owned by NCP RFM LP, inclusive of the 223,852 Shares purchased in the Private Placement, and (ii) 118,509 shares of Common Stock issuable pursuant to warrants held by NCP RFM LP. The warrants are subject to a beneficial ownership limitation of 9.99%, which restricts NCP RFM LP from exercising that portion of the warrants that would result in it and its affiliates owning, after exercise, a number of shares of Common Stock in excess of the beneficial ownership limitation.
- (4) The shares listed in the second column include: (i) 1,980,098 shares of Common Stock owned by Blackwell Partners LLC – Series A, inclusive of the 1,677,440 Shares purchased in the Private Placement, and (ii) 302,658 shares of Common Stock issuable pursuant to warrants held by Blackwell Partners LLC – Series A. The warrants are subject to a beneficial ownership limitation of 9.99%, which restricts Blackwell Partners LLC – Series A from exercising that portion of the warrants that would result in it and its affiliates owning, after exercise, a number of shares of Common Stock in excess of the beneficial ownership limitation.
- (5) The shares listed in the second column consist of 2,924,471 shares of Common Stock held by The Mangrove Partners Master Fund, Ltd, inclusive of the 2,525,252 Shares purchased in the Private Placement.
- (6) Nantahala Capital Management, LLC is a Registered Investment Adviser and has been delegated the legal power to vote and/or direct the disposition of the securities held by each of Nantahala Capital Partners Limited Partnership, NCP RFM LP and Blackwell Partners LLC – Series A, as a General Partner, Investment Manager, or Sub-Advisor and would be considered the beneficial owner of such securities. The above shall not be deemed to be an admission by the record owners or these Selling Stockholders that they are themselves beneficial owners of these securities for purposes of Section 13(d) of the Exchange Act, or any other purpose. Wilmot Harkey and Daniel Mack are managing members of Nantahala Capital Management, LLC and may be deemed to have voting and dispositive power over the shares held by each of Nantahala Capital Partners Limited Partnership, NCP RFM LP and Blackwell Partners LLC – Series A. The address for Nantahala Capital Management, LLC is 130 Main St. 2nd Floor, New Canaan, CT 06840.

PLAN OF DISTRIBUTION

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

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker-dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

In connection with the sale of the securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholders has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

We are required to pay certain fees and expenses incurred by us incident to the registration of the securities. We have agreed to keep this prospectus effective until such time that no Selling Stockholder owns Shares.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the Common Stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the Common Stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

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LEGAL MATTERS

The validity of the shares of our Common Stock being offered by this prospectus have been passed upon for us by Blank Rome LLP, New York, New York.

EXPERTS

The balance sheets of Anebulo Pharmaceuticals, Inc. as of June 30, 2024 and 2023 and the related statements of operations, stockholders’ equity, and cash flows for each of the years then ended, have been audited by EisnerAmper LLP, independent registered public accounting firm, as stated in their report which is incorporated herein by reference. Such financial statements have been incorporated herein by reference in reliance on the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file reports and proxy statements with the SEC. These filings include our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and proxy statements on Schedule 14A, as well as any amendments to those reports and proxy statements, which are available free of charge through our website as soon as reasonably practicable after we file them with, or furnish them to, the SEC. Our Internet website address is www.anebulo.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. You should not rely on any such information in making your decision whether to purchase our securities. The SEC also maintains a website at www.sec.gov that contains reports, proxy and information statements and other information regarding us and other issuers that file electronically with the SEC.

We have filed with the SEC a registration statement on Form S-3 under the Securities Act relating to the securities being offered by this prospectus. This prospectus, which constitutes part of that registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules which are part of the registration statement. For further information about us and the securities offered, see the registration statement and the exhibits and schedules thereto. Statements contained in this prospectus regarding the contents of any contract or any other document to which reference is made are not necessarily complete, and, in each instance where a copy of a contract or other document has been filed as an exhibit to the registration statement, reference is made to the copy so filed, each of those statements being qualified in all respects by the reference.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-40388):

- Our Annual Report on [Form 10-K](#) for the fiscal year ended June 30, 2024 filed with the SEC on September 25, 2024;
- Our Quarterly Report on [Form 10-Q](#) for the quarter ended September 30, 2024 filed with the SEC on November 13, 2024 and our Quarterly Report on [Form 10-Q](#) for the quarter ended December 31, 2024 filed with the SEC on February 14, 2025;
- Our Current Reports on Form 8-K filed with the SEC on [July 22, 2024](#), [December 23, 2024](#), [February 12, 2025](#), and [February 24, 2025](#);
- Our Proxy Statement on [Schedule 14A](#) filed with the SEC on February 24, 2025;
- The description of our Common Stock is set forth in our registration statement on Form 8-A filed with the SEC on [May 5, 2021](#), as updated by the description of our Common Stock filed as [Exhibit 4.4](#) to our Annual Report on Form 10-K for the year ended June 30, 2022 filed with the SEC on September 9, 2022, as further updated by the section entitled “Description of Capital Stock” included elsewhere in this prospectus, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are

related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made (i) on or after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of such registration statement, and (ii) on or after the date of this prospectus but prior to the termination of the offering (i.e., until the earlier of the date on which all of the securities registered hereunder have been sold or the registration statement of which this prospectus forms a part has been withdrawn). Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We will furnish without charge to each person, including any beneficial owner, to whom a prospectus is delivered, upon written or oral request, a copy of any or all of the documents incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits that are specifically incorporated by reference into such documents. You should direct any requests for documents to:

Anebulo Pharmaceuticals, Inc.
1017 Ranch Road 620 South, Suite 107
Lakeway, Texas 78734
(512) 598-0931
Attention: Corporate Secretary

You may also access these documents, free of charge, on the SEC's website at www.sec.gov or on our website at <https://ir.anebulo.com/sec-filings>. The information contained in, or that can be accessed through, our website is not incorporated by reference in, and is not part of, this prospectus or any accompanying prospectus supplement.

In accordance with Rule 412 of the Securities Act, any statement contained in a document incorporated by reference herein shall be deemed modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement.

You should rely only on information contained in, or incorporated by reference into, this prospectus and any prospectus supplement. We have not authorized anyone to provide you with information different from that contained in this prospectus or incorporated by reference into this prospectus. We are not making offers to sell the securities in any jurisdiction in which such an offer or solicitation is not authorized 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 such an offer or solicitation.

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15,151,514 Shares of Common Stock



PROSPECTUS

February 28, 2025

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