

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-284667**PROSPECTUS SUPPLEMENT**
(To Prospectus dated February 11, 2025)**3,776,436 Shares of Common Stock**

We are offering 3,776,436 shares of our common stock, par value \$0.0001 per share, or the common stock. The offering price for each share of common stock is \$26.48.

Our common stock is listed on The New York Stock Exchange under the symbol “ANRO.” The last reported sale price of our common stock on The New York Stock Exchange on July 10, 2026 was \$26.48 per share.

We are an “emerging growth company” and eligible to use the requirements of a “smaller reporting company,” each as defined under the U.S. federal securities laws, and, as such, have elected to comply with certain reduced public company reporting requirements as applicable to such types of companies and may elect to do so in future filings. See “Prospectus Supplement Summary — Implications of Being an Emerging Growth Company and a Smaller Reporting Company.”

Investing in our securities involves a high degree of risk. Before making an investment decision, you should review carefully the risks and uncertainties described under the heading “Risk Factors” on page [S-11](#) of this prospectus, page [8](#) of the accompanying prospectus and under similar headings in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Share	Total
Offering price	\$ 26.48	\$100,000,025.28
Underwriting discounts and commissions ⁽¹⁾	\$ 1.4564	\$ 5,500,001.39
Proceeds to Alto Neuroscience, Inc., before expenses	\$25.0236	\$ 94,500,023.89

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

The underwriters expect to deliver the shares against payment in New York, New York on July 14, 2026.

*Joint Book-Running Managers***BofA Securities****Stifel****William Blair****Baird***Co-Managers***Jones****H.C. Wainwright & Co.**

Prospectus Supplement dated July 13, 2026

TABLE OF CONTENTS

PROSPECTUS SUPPLEMENT

<u>ABOUT THIS PROSPECTUS SUPPLEMENT</u>	<u>S-1</u>
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>S-3</u>
<u>PROSPECTUS SUPPLEMENT SUMMARY</u>	<u>S-5</u>
<u>THE OFFERING</u>	<u>S-9</u>
<u>RISK FACTORS</u>	<u>S-11</u>
<u>USE OF PROCEEDS</u>	<u>S-13</u>
<u>DILUTION</u>	<u>S-14</u>
<u>UNDERWRITING</u>	<u>S-16</u>
<u>LEGAL MATTERS</u>	<u>S-24</u>
<u>EXPERTS</u>	<u>S-24</u>
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	<u>S-25</u>
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	<u>S-26</u>

PROSPECTUS

<u>ABOUT THIS PROSPECTUS</u>	<u>1</u>
<u>PROSPECTUS SUMMARY</u>	<u>3</u>
<u>RISK FACTORS</u>	<u>8</u>
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>9</u>
<u>USE OF PROCEEDS</u>	<u>11</u>
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>12</u>
<u>DESCRIPTION OF DEBT SECURITIES</u>	<u>20</u>
<u>DESCRIPTION OF WARRANTS</u>	<u>27</u>
<u>LEGAL OWNERSHIP OF SECURITIES</u>	<u>29</u>
<u>PLAN OF DISTRIBUTION</u>	<u>32</u>
<u>LEGAL MATTERS</u>	<u>35</u>
<u>EXPERTS</u>	<u>35</u>
<u>WHERE YOU CAN FIND ADDITIONAL INFORMATION</u>	<u>35</u>
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	<u>36</u>

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is part of a “shelf” registration statement on [Form S-3 \(File No. 333-284667\)](#) that we filed with the Securities and Exchange Commission, or the SEC, on February 3, 2025, and which was declared effective by the SEC on February 11, 2025. This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering of common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. The information included or incorporated by reference in this prospectus supplement also adds to, updates and changes information contained or incorporated by reference in the accompanying prospectus.

Before buying any of the shares of common stock offered hereby, we urge you to read carefully this prospectus supplement and the accompanying prospectus, together with the information incorporated herein by reference as described below under the heading “Incorporation of Certain Information by Reference.” These documents contain important information that you should consider when making your investment decision. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying prospectus — the statement in the document having the later date modifies or supersedes the earlier statement. If the description of the offering varies between any free writing prospectus we have authorized for use in connection with this offering and this prospectus supplement, you should rely on the information in such free writing prospectus.

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

We have not, and the underwriters have not, authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The information contained in this prospectus supplement or the accompanying prospectus, or incorporated by reference herein or therein, is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our common stock. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus supplement and in the accompanying prospectus.

Neither we nor the underwriters have taken any action that would permit the offering or possession or distribution of this prospectus supplement, the accompanying prospectus or any filed free writing prospectus in any jurisdiction where other action for that purpose is required, other than in the United States. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an

offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless the context indicates otherwise, as used in this prospectus supplement, references to “we,” “us,” “our,” “the company” and “Alto” refer to Alto Neuroscience, Inc. and its consolidated subsidiary.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein contain forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical fact, contained in this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “target,” “potential,” “will,” “would,” “could,” “should,” “continue,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein include, among other things, statements about:

- the initiation, timing, progress, and results of our research and development programs, preclinical studies, any clinical trials, and investigational new drug, or IND, and other regulatory submissions;
- the ability of our approach to reproducibly predict treatment outcomes for product candidates amongst identified patient populations and achieve clinical success;
- our ability to continue to identify appropriate biomarkers for use in further clinical development;
- the timing of and costs involved in obtaining and maintaining regulatory approval of our current product candidates and any future product candidates that we may identify or develop;
- the beneficial characteristics, including potential safety, efficacy, and therapeutic effects, of our product candidates;
- our ability to efficiently and cost-effectively conduct our current and future clinical trials;
- our ability to obtain funding for our operations necessary to complete further development and commercialization of our product candidates, if approved;
- our ability to maintain existing, and establish new, strategic collaborations, licensing, or other arrangements, including our ability to comply with our financial obligations pursuant to the terms of such agreements;
- the timing and likelihood of the achievement of milestones pursuant to our existing collaboration and licensing agreements;
- our ability to identify and develop product candidates for treatment of additional indications;
- the performance of our third-party service providers, including our suppliers and manufacturers;
- the rate and degree of market acceptance and clinical utility for our current product candidates and any other product candidates we may develop;
- the effects of competition with respect to our current product candidates or any of our future product candidates, as well as innovations by current and future competitors in our industry;
- our estimates regarding the potential market opportunities and the number of patients for our product candidates and any future product candidates, if approved for commercial use;
- the implementation of our strategic plans for our business, any product candidates we may develop;
- our intellectual property position, including the scope of protection we are able to establish, maintain, defend and enforce for intellectual property rights covering our product candidates and our Precision Psychiatry Platform;
- our ability to attract and retain key scientific or management personnel;
- regulatory and legal developments in the United States and foreign countries;
- our ability to attract and retain employees and collaborators with development, regulatory, and commercialization expertise;

- our ability to comply with the terms of our loan agreements and our expectations regarding our ability to access additional tranches thereunder;
- the accuracy of our estimates regarding future expenses, future revenue, capital requirements, and need for additional financing;
- the anticipated impact of global economic uncertainty, financial market conditions and geopolitical events, including the conflict between Ukraine and Russia, the conflict in the Middle East, geopolitical tensions, high levels of inflation, fluctuating interest rates, and tariffs on our business, results of operations, and financial condition;
- the period over which we estimate our existing cash, cash equivalents and restricted cash will be sufficient to fund our future operating expenses and capital expenditure requirements;
- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act; and
- the intended use of the net proceeds from this offering, together with our existing cash, cash equivalents and restricted cash.

These forward-looking statements reflect our management's beliefs and views with respect to future events and are based on estimates and assumptions as of the date the statement is made and are subject to risks and uncertainties. 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 the statement is made, 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 investors are cautioned not to unduly rely upon these statements. We discuss many of the risks associated with the forward-looking statements in greater detail under the heading "Risk Factors" included in our most recent Annual Report on Form 10-K and in our subsequent Quarterly Reports on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC, which are incorporated by reference into this prospectus in their entirety. You should evaluate all forward-looking statements in the context of these risks and uncertainties. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should carefully read this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein, with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events, or otherwise.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere in this prospectus supplement and the accompanying prospectus and in the documents we incorporate by reference. This summary does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus supplement and the accompanying prospectus carefully, especially the risks of investing in our common stock discussed under “Risk Factors” beginning on page S-7 of this prospectus supplement and under similar headings in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus, along with our financial statements and notes to those financial statements and the other information incorporated by reference in this prospectus supplement and the accompanying prospectus, before making an investment decision.

Company Overview

We are a clinical-stage biopharmaceutical company with a mission to redefine psychiatry by leveraging neurobiology to develop personalized and highly effective treatment options. Through insights derived from our scalable and proprietary Precision Psychiatry Platform, or our Platform, we aim to develop novel medicines that are more targeted based on a deep understanding of patient biology and the activity of our product candidates on brain processes. Our current pipeline consists of seven clinical-stage assets addressing high-need therapeutic areas, focusing on major depressive disorder, or MDD, bipolar depression, or BPD, treatment resistant depression, or TRD, schizophrenia, and Parkinson’s disease.

Our clinical-stage product candidates are being advanced based on extensive preclinical and clinical data that suggest the potential to bring significant improvements to patient populations not adequately treated with current standard-of-care medications.

Our pipeline of clinical-stage product candidates is depicted below:

Product Candidate (MOA/Target)	Lead Indication	Phase 1	Phase 2	Phase 3
		Safety & Brain Effects	Clinical Effect in Biomarker Positive	Registration Trial(s)
ALTO-207 (D3/D2 & 5-HT3)	TRD	Potentially Pivotal* Ph. 2B Ongoing & Phase 3 Planned		
ALTO-300 (MT1/2 & 5HT2C)	MDD		Phase 2b Ongoing	
ALTO-100 (BDNF)	Bipolar Depression		Phase 2b Ongoing	
ALTO-101 (PDE4)				
ALTO-203 (H3)				
ALTO-202 (NMDA NR2B)	MDD			
ALTO-208 (D3/D2 & NK-1)	Parkinson’s Disease			

*Trial qualifying as pivotal is subject to FDA feedback and review of data

*Fast Track Designation

BDNF: Brain Derived Neurotrophic Factor; MDD: Major Depressive Disorder; TRD: treatment Resistant Depression; D3/D2: Dopamine Receptor Ligand D3 & D2; 5-HT3: 5-hydroxytryptamine Type 3; MT1/2: Melatonin Receptor 1 and 2; 5-HT2C: 5-Hydroxytryptamine Receptor 2C; PDE4: Phosphodiesterase-4; H3: Histamine H3 Receptor; NMDA NR2B: N-methyl-D-aspartate Receptor Subtype 2B
NK-1: Neurokinin-1 Receptor

¹We have active investigational new drug applications, or INDs, for each of, ALTO-207, ALTO-300, ALTO-100, ALTO-101, ALTO-203, and ALTO-202. ALTO-207, ALTO-100, ALTO-101, ALTO-203, and ALTO-202 were evaluated in Phase 1 safety trials by their respective originators prior to our acquisition or licensing of the product candidate.

Recent Developments

Preliminary Financial Updates

Based upon preliminary estimates and information available to us as of the date of this prospectus supplement, we estimate that our cash, cash equivalents and restricted cash were approximately \$244.2 million as of June 30, 2026. This amount has not been audited, reviewed, or compiled by our independent registered public accounting firm. Our actual cash, cash equivalents and restricted cash as of June 30, 2026 may differ from these amounts after we complete our comprehensive accounting procedures for the quarter ended June 30, 2026. Our financial statements for the quarter ended June 30, 2026 will not be available until after this offering is completed, and consequently will not be available to you prior to investing in this offering.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the section titled “Risk Factors” immediately following this prospectus summary and under similar headings in our filings with the SEC which are incorporated by reference in this prospectus supplement and the accompanying prospectus. These risks include the following:

- We are a clinical-stage biopharmaceutical company with a limited operating history and no history of commercializing products and have incurred substantial losses since our inception. We anticipate incurring substantial and increasing losses for the foreseeable future and may never achieve or maintain profitability.
- Preclinical and clinical development involves a lengthy and expensive process, with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our current product candidates or any future product candidates.
- We will require substantial additional financing to achieve our goals, and failure to obtain additional capital when needed, or on acceptable terms to us, could cause us to delay, limit, reduce, or terminate our product development or future commercialization efforts.
- We rely heavily on the biomarker data gathered from our Platform. We currently anticipate that certain of our therapeutic product candidates will require us to develop and obtain approval from the U.S. Food and Drug Administration, or FDA, of a companion diagnostic for such therapeutic product candidates. We expect to initiate discussions with the FDA concerning the development of companion diagnostics at our end of Phase 2 meetings with respect to ALTO-100 and ALTO-300. If the FDA does not agree with our biomarker-based approach, or if we are unable to successfully develop and obtain regulatory approval for certain companion diagnostic tools needed to leverage our Platform, or experience significant delays in doing so, our business will be materially harmed.
- Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming, and uncertain and may prevent us or any future collaboration partners from obtaining approvals for the commercialization of our product candidates, and additional time may be required to obtain marketing authorization for any of our product candidates that we develop as drug/device combination products.
- Even if our product candidates receive regulatory approval, they may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success, in which case we may not generate significant revenues or become profitable.
- The successful commercialization of our product candidates, if approved, will depend in part on the extent to which governmental authorities and health insurers establish coverage, adequate reimbursement levels, and favorable pricing policies. Failure to obtain or maintain coverage and adequate reimbursement for our product candidates could limit our ability to market those products and decrease our ability to generate revenue.

- Our business depends on the success of our product candidates. If we are ultimately unable to successfully commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.
- We rely on, and intend to continue to rely on, our internal clinical development expertise to conduct our current and future clinical trials, including internal teams and systems as well as external vendors and CROs. If our team is unable to execute according to our strategy, comply with regulatory requirements, or run trials effectively, our ability to obtain regulatory approval may be delayed and our business could be materially harmed.
- We are currently subject to and may be subject to additional future securities class action litigation and derivative claims.
- The terms of our loan and security agreement with K2 HealthVentures LLC, as amended, or the Loan and Security Agreement and the convertible loan agreement, or the Convertible Grant Agreement, with The Wellcome Trust Limited place restrictions on our operating and financial flexibility and may cause dilution to our stockholders. If we raise additional capital through debt financing, the terms of any new debt could further restrict our ability to operate our business or result in further dilution to investors in our common stock.
- Competitive products may reduce or eliminate the commercial opportunity for our product candidates for our current or future indications. If our competitors develop technologies or product candidates more rapidly than we do, or their technologies are more effective or safer than ours, our ability to develop and successfully commercialize our current products may be adversely affected.
- We are dependent on the services of our management and other clinical and scientific personnel, including our internal clinical operations team, and if we are not able to retain these individuals or recruit additional management or clinical and scientific personnel, our business will suffer.
- If we are unable to obtain and maintain sufficient intellectual property protection for our Platform, technologies, and product candidates and any future product candidates we may develop, or if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors or other third parties could develop and commercialize products similar or identical to ours, and our ability to successfully develop and commercialize our product candidates may be adversely affected. Further, our issued composition of matter patents covering our pharmaceutical product candidates may expire at such a date that our patents may not prevent competitors from developing, making, and marketing a product that is identical to our product candidates after expiration of any applicable regulatory exclusivities.
- Our rights to develop and commercialize our product candidates, our Platform, or other technologies are subject, in large part, to the terms and conditions of licenses granted to us by others, such as Board of Trustees of the Leland Stanford Junior University, Sanofi, and MedRx Co., Ltd. The terms of these licenses may be inadequate to protect our competitive position on products or product candidates for a sufficient amount of time. For example, our patent rights under the terms of our exclusive license agreement with Stanford are only exclusive until December 2029, at which time such rights will become nonexclusive, and our rights under certain technology relating to the inventions covered by such patents are nonexclusive. Further, if we fail to comply with our obligations in the agreements under which we in-license or acquire development or commercialization rights to product candidates, or data from third parties, we could lose such rights that are important to our business.
- Patent terms may be inadequate to protect our competitive position on products or product candidates for a sufficient amount of time.
- We may have conflicts with our current or future licensors or collaborators that could delay or prevent the development or commercialization of our product candidates.
- Failure or perceived failure to comply with existing or future laws, regulations, contracts, self-regulatory schemes, standards, and other obligations related to data privacy and security (including security incidents) could harm our business. Compliance or the actual or perceived failure to comply with such obligations could increase the costs of our product candidates, limit their use or adoption, and otherwise negatively affect our operating results and business.

Company Information

We were incorporated under the laws of the State of Delaware in March 2019. Our principal executive offices are located at 650 Castro Street, Suite 450, Mountain View, California 94041 and our telephone number is (650) 200-0412. Our website address is www.altoneuroscience.com. The information contained on, or accessible through, our website is not incorporated by reference into this prospectus supplement. We have included our website in this prospectus supplement solely as an inactive textual reference.

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

We are an “emerging growth company,” as defined in Section 2(a) of the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including relief from the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, less extensive disclosure obligations regarding executive compensation in our registration statements, periodic reports and proxy statements, exemptions from the requirements to hold a nonbinding advisory vote on executive compensation, and exemptions from stockholder approval of any golden parachute payments not previously approved. We may also elect to take advantage of other reduced reporting requirements in future filings. As a result, our stockholders may not have access to certain information that they may deem important and the information that we provide to our stockholders may be different than, and not comparable to, information presented by other public reporting companies. We could remain an emerging growth company until the earlier of (i) the last day of the fiscal year following the fifth anniversary of the closing of our initial public offering, (ii) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.235 billion, (iii) the last day of the fiscal year in which we are deemed to be a “large accelerated filer” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which would occur if the market value of our common stock held by non-affiliates exceeded \$700.0 million as of the last business day of the second fiscal quarter of such year or (iv) the date on which we have issued more than \$1.0 billion in non-convertible debt securities during the prior three-year period.

In addition, the JOBS Act provides that an emerging growth company may take advantage of the extended transition period provided in the Securities Act for complying with new or revised accounting standards. An emerging growth company may therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption and, as a result, will not be subject to the same implementation timing for new or revised accounting standards as are required of other public companies that are not emerging growth companies, which may make comparison of our consolidated financial information to those of other public companies more difficult.

We are also eligible to use the requirements of a “smaller reporting company,” as defined in the Exchange Act. 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. Based on the market value of our common stock as of June 30, 2026, we no longer qualify as a “smaller reporting company,” but remain eligible to use the requirements of a smaller reporting company until our Quarterly Report on Form 10-Q for the quarter ending March 31, 2027.

THE OFFERING

Common stock offered by us 3,776,436 shares

Common stock to be outstanding immediately after this offering 38,829,167 shares

Use of proceeds We estimate that the net proceeds from this offering will be approximately \$93.9 million, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use the net proceeds from this offering, together with our current cash and cash equivalents, to accelerate and expand the clinical development of ALTO-207, including to conduct an additional planned Phase 3 trial of ALTO-207 as monotherapy for the treatment of treatment resistant depression, and for general working capital purposes. See the section titled “Use of Proceeds” beginning on page S-9 for additional information.

Risk factors You should read the “Risk Factors” section of this prospectus supplement beginning on page S-7 and page 8 of the accompanying prospectus, respectively, and the “Risk Factors” in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus, for a discussion of factors to consider carefully before deciding to invest in our securities.

New York Stock Exchange Symbol Our common stock is listed on The New York Stock Exchange under the symbol “ANRO.”

The number of shares of our common stock to be outstanding after this offering is based on 35,052,731 shares of our common stock outstanding as of March 31, 2026, and excludes:

- an aggregate of 7,077,891 shares of our common stock issuable upon the exercise of stock options outstanding as of March 31, 2026, at a weighted average exercise price of \$9.38 per share pursuant to our (i) 2024 Equity Incentive Plan, or the 2024 Plan, (ii) 2019 Equity Incentive Plan, or the 2019 Plan, and (iii) 2025 Inducement Plan, or the 2025 Inducement Plan;
- 265,090 shares of common stock issuable upon the exercise of stock options granted after March 31, 2026 under our 2024 Plan, at a weighted average exercise price of \$22.83 per share;
- 7,722,251 shares of common stock issuable upon the exercise of outstanding pre-funded warrants to purchase shares of common stock outstanding as of March 31, 2026 with an exercise price of \$0.0001 per share;
- up to 381,315 shares of our common stock issuable upon the conversion of term loans under the Loan and Security Agreement with K2 HealthVentures LLC;
- up to 338,827 shares of our common stock issuable upon the exercise of outstanding warrants (based upon the maximum aggregate principal amount of term loans that may be funded under the Loan and Security Agreement), with an exercise price of \$3.7122 per share;
- shares of our common stock issuable upon the conversion of outstanding loans under the Convertible Grant Agreement with Wellcome, which loans are convertible beginning in July 2026 into a number of shares of common stock determined by dividing (i) the then-outstanding principal amount of such loan (which was \$2.0 million as of the date of this prospectus, and which may be increased to up to approximately \$11.7 million subject to achievement of certain milestones set forth in the Convertible Grant Agreement) by (ii) a conversion price equal to a 20% discount to the 30-day volume-weighted average price of our common stock on the New York Stock Exchange at the date of conversion;

- 527,407 shares of common stock reserved for future issuance under the 2024 Plan as of March 31, 2026, as well as any future automatic annual increases in the number of shares of common stock reserved for issuance under our 2024 Plan; and
- 839,100 shares of common stock reserved for future issuance under our 2024 Employee Stock Purchase Plan, or the ESPP, as of March 31, 2026, as well as any future automatic annual increases in the number of shares of common stock reserved for future issuance under our ESPP.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options or warrants, no conversion of any loans. To the extent options and warrants are exercised, restricted stock units vest, or loans are converted, there may be future dilution.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before you decide to invest in our common stock, you should carefully consider the risks and uncertainties described below together with all other information contained in this prospectus supplement, the accompanying prospectus and in our filings with the SEC that we have incorporated by reference in this prospectus supplement and the accompanying prospectus. The risk factors included in this prospectus supplement update the corresponding risk factors incorporated by reference in this prospectus supplement from our [Form 10-K for the year ended December 31, 2025](#) and other documents incorporated by reference into this prospectus supplement and the accompanying prospectus. If any of the following risks or any of the risks incorporated herein by reference actually occurs, our business, prospects, operating results and financial condition could suffer materially. In such event, the trading price of our common stock could decline and you might lose all or part of your investment.

Risks Related to this Offering

Raising additional capital, including as a result of this offering, may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our product candidates.

Until such time, if ever, as we can generate substantial revenue, we expect to finance our cash needs through a combination of equity offerings, debt financings, or other capital sources, including potential collaborations, licenses, and other similar arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a holder of our common stock. Any future debt financing and 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.

If we raise additional funds through future collaborations, licenses, and other similar arrangements, we may have to relinquish valuable rights to our future revenue streams or product candidates, or grant licenses on terms that may not be favorable to us and/or that may 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 terms acceptable to us, we would be required to delay, limit, reduce, or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

If you purchase shares of common stock in this offering, you will suffer immediate dilution of your investment.

The price of our common stock in this offering is substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our net tangible book value per share after this offering. To the extent outstanding options are exercised or restricted stock units are settled in shares of our common stock, you will incur further dilution. Based on the offering price of \$26.48 per share, you will experience immediate dilution of \$17.80 per share, representing the difference between our as adjusted net tangible book value per share after giving effect to this offering and the offering price. For additional information on the dilution that you will experience immediately after this offering, see the section titled “Dilution.”

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

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

We have broad discretion in the use of our cash and cash equivalents, including how we use the net proceeds of this offering, and may not use them effectively, which could affect our results of operations and cause our stock price to decline.

Our management has considerable discretion in the application of our cash and cash equivalents, including the net proceeds of this offering. We may use our cash and cash equivalents, including the net proceeds of this offering, for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest our cash and cash equivalents, including the net proceeds from this offering, in a manner that does not produce income or that loses value.

A sale of a substantial number of shares of our common stock may cause the price of our common stock to decline.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. If our stockholders sell, or the market perceives that our stockholders intend to sell, substantial amounts of our common stock in the public market, the market price of our common stock could decline significantly.

We cannot predict what effect, if any, sales of our shares in the public market or the availability of shares for sale will have on the market price of our common stock. However, future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding options or warrants, or the perception that such sales may occur, could adversely affect the market price of our common stock.

In addition, BofA Securities may, in its sole discretion, release all or some portion of the shares subject to the lock-up agreements associated with this offering at any time and for any reason. Sales of a substantial number of such shares upon expiration of the lock-up and market stand-off agreements, the perception that such sales may occur, or early release of these agreements, could cause our market price to fall or make it more difficult for you to sell your common stock at a time and price that you deem appropriate.

USE OF PROCEEDS

We estimate that the net proceeds to us from this offering will be approximately \$93.9 million after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

We currently intend to use the net proceeds from this offering, together with our current cash and cash equivalents, to accelerate and expand the clinical development of ALTO-207, including to conduct an additional planned Phase 3 trial of ALTO-207 as monotherapy for the treatment of treatment resistant depression, and for general working capital purposes.

Our expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our product candidate development, the status of and results from clinical trials, as well as any collaborations that we may enter into with third parties for our product candidates, and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds from this offering. The timing and amount of our actual expenditures will be based on many factors, including cash flows from operations and the anticipated growth of our business. Pending these uses, we expect to invest the net proceeds in short-term, interest bearing obligations, certificates of deposit or direct or guaranteed obligations of the United States. The goal with respect to the investment of these net proceeds is capital preservation and liquidity so that such funds are readily available to fund our operations.

Based on the planned use of proceeds described above, we believe that the net proceeds from this offering, together with our current cash, cash equivalents and restricted cash, will be sufficient to enable us to fund our operating expenses and capital expenditure requirements through 2030. We have based this estimate on assumptions that may prove to be incorrect, and we could use our available capital resources sooner than we currently expect.

DILUTION

If you invest in our common stock in this offering, your interest will be diluted immediately to the extent of the difference between the offering price per share you will pay in this offering and the as adjusted net tangible book value per share of our common stock after this offering. Our historical net tangible book value as of March 31, 2026 was \$243.4 million, or \$6.94 per share of common stock. Historical net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the number of shares of our common stock outstanding on March 31, 2026.

After giving effect to our issuance and sale of 3,776,436 shares of common stock in this offering at an offering price of \$26.48 per share, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2026 would have been \$337.2 million, or \$8.68 per share.

This represents an immediate increase in as adjusted net tangible book value per share of \$1.74 to existing stockholders and immediate dilution of \$17.80 in as adjusted net tangible book value per share to new investors purchasing common stock 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 offering price per share paid by new investors. The following table illustrates this per share dilution to the new investors purchasing securities in this offering without giving effect to the option to purchase additional shares granted to the underwriters:

Offering price per share	\$26.48
Net tangible book value per share as of March 31, 2026	\$6.94
Increase per share attributable to sale of shares of common stock	\$1.74
As adjusted net tangible book value per share after this offering	<u>\$8.68</u>
Dilution per share to new investors	<u>\$17.80</u>

The above discussion and table are based on 35,052,731 shares of our common stock outstanding as of March 31, 2026, and excludes:

- an aggregate of 7,077,891 shares of our common stock issuable upon the exercise of stock options outstanding as of March 31, 2026, at a weighted average exercise price of \$9.38 per share pursuant to our (i) 2024 Plan, (ii) 2019 Plan and (iii) 2025 Inducement Plan;
- 265,090 shares of common stock issuable upon the exercise of stock options granted after March 31, 2026 under our 2024 Plan, at a weighted average exercise price of \$22.83 per share;
- 7,722,251 shares of common stock issuable upon the exercise of outstanding pre-funded warrants to purchase shares of common stock outstanding as of March 31, 2026 with an exercise price of \$0.0001 per share;
- up to 381,315 shares of our common stock issuable upon the conversion of term loans under the Loan and Security Agreement with K2 HealthVentures LLC;
- up to 338,827 shares of our common stock issuable upon the exercise of outstanding warrants (based upon the maximum aggregate principal amount of term loans that may be funded under the Loan and Security Agreement), with an exercise price of \$3.7122 per share;
- shares of our common stock issuable upon the conversion of outstanding loans under the Convertible Grant Agreement with Wellcome, which loans are convertible beginning in July 2026 into a number of shares of common stock determined by dividing (i) the then-outstanding principal amount of such loan (which was \$2.0 million as of the date of this prospectus, and which may be increased to up to approximately \$11.7 million subject to achievement of certain milestones set forth in the Convertible Grant Agreement) by (ii) a conversion price equal to a 20% discount to the 30-day volume-weighted average price of our common stock on the New York Stock Exchange at the date of conversion;
- 527,407 shares of common stock reserved for future issuance under the 2024 Plan as of March 31, 2026, as well as any future automatic annual increases in the number of shares of common stock reserved for issuance under our 2024 Plan; and

- 839,100 shares of common stock reserved for future issuance under our ESPP as of March 31, 2026, as well as any future automatic annual increases in the number of shares of common stock reserved for future issuance under our ESPP.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options or warrants, no conversion of any loans. To the extent options and warrants are exercised, restricted stock units vest, loans are converted, new stock awards are issued under our equity incentive plans or we otherwise issue additional shares of common stock in the future at a price less than the offering price, there may be further dilution to new investors purchasing common stock in this offering.

UNDERWRITING

BofA Securities, Inc. is acting as representative of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

<u>Underwriter</u>	<u>Number of Shares</u>
BofA Securities, Inc.	1,623,868
Stifel, Nicolaus & Company, Incorporated	944,109
William Blair & Company, L.L.C.	566,465
Robert W. Baird & Co. Incorporated	377,644
JonesTrading Institutional Services LLC	151,057
H.C. Wainwright & Co., LLC	113,293
Total	<u>3,776,436</u>

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

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

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of \$0.95328 per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us.

	<u>Per Share</u>	<u>Total</u>
Public offering price	\$ 26.48	\$100,000,025.28
Underwriting discount	\$ 1.4564	\$ 5,500,001.39
Proceeds, before expenses, to us	\$25.0236	\$ 94,500,023.89

The expenses of the offering, not including the underwriting discount, are estimated at \$650,000 and are payable by us. We have agreed to reimburse the underwriters for certain expenses relating to this offering in an amount not to exceed \$20,000. The underwriters have also agreed to reimburse us for certain expenses relating to this offering.

No Sales of Similar Securities

We, our executive officers and directors, or the Lock-up Parties, have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common

stock, for 60 days after the date of this prospectus without first obtaining the written consent of BofA Securities, Inc. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly

- offer, pledge, sell or contract to sell any common stock,
- sell any option or contract to purchase any common stock,
- purchase any option or contract to sell any common stock,
- grant any option, right or warrant for the sale of any common stock,
- lend or otherwise dispose of or transfer any common stock,
- request or demand that we file a registration statement related to the common stock, or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise, or
- publicly announce an intention to do any of the foregoing for a period of 60 days after the date of this prospectus without the prior written consent of the underwriters.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

Notwithstanding the foregoing, a Lock-up Party may transfer shares of common stock: (i) by a bona fide gift, including, without limitation, to a charitable organization or educational institution; (ii) by will or intestate succession to a family member; (iii) to a trust whose beneficiaries consist exclusively of one or more of the Lock-up Parties and/or a family member; (iv) by operation of law, such as pursuant to a qualified domestic order, divorce settlement, divorce decree or separation agreement, or related court order related to the distribution of assets in connection with the dissolution of a marriage or civil union; (v) to a corporation, partnership, limited liability company or other entity of which the Lock-up Parties or any family member is the legal and beneficial owner of all of the outstanding equity securities or similar interests; (vi) if the Lock-up Party is a trust, to a trustor, trustee or beneficiary of the trust or to the estate of a beneficiary of such trust; (vii) if the Lock-up Party is a corporation, partnership, limited liability company, trust or other business entity, to any shareholder, partner, or member of, or owner of a similar equity interest in, the Lock-up Party, as the case may be; (viii) if Lock-up Party is a corporation, partnership, limited liability company, trust or other business entity, (a) in connection with the sale or other bona fide transfer in a single transaction of all or substantially all of the Lock-up Party's share capital, partnership interests, membership interests, and other similar equity interests, as the case may be, or all or substantially all of the Lock-up Party's assets, in any such case not undertaken for the purpose of avoiding the restrictions imposed by the lock-up agreement or (b) to another corporation, partnership, limited liability company or other business entity so long as the transferee is an affiliate of the Lock-up Party and such transfer is not for value; (ix) if the Lock-up Party is not an executive officer or director of ours, that the Lock-up Party may purchase (a) from the underwriters in this offering or (b) in open market transactions after the completion of this offering; (x) in connection with the exercise or settlement on a cash basis of options or restricted stock units or other rights to purchase shares of common stock or related securities as described in this registration statement, provided that any shares of common stock or related securities received as a result of such exercise, vesting or settlement shall remain subject to the terms of the Lock-up Party's lock-up agreement; (xi) to us (a) in connection with the "net" or "cashless" exercise of options, warrants or other rights to purchase shares of common stock or related securities from us (including any transfer to us for the payment of tax withholdings or remittance payments due as a result of such exercise), and (b) in connection with the vesting or settlement of restricted stock units or other rights to purchase shares of common stock or related securities, for the payment of tax withholdings or remittance payments due as a result of the vesting or settlement of such restricted stock units or other rights, provided that any shares of common stock or related securities received as a result of such exercise, vesting or settlement shall remain subject to the terms of the Lock-up Party's lock-up agreement; (xii) pursuant to a bona fide third-party tender offer, merger, amalgamation, consolidation or other similar transaction that is approved by our board of directors and made to all holders of the our capital stock after this offering involving a change of

control of us (including, without limitation, the entering into any lock-up, voting or similar agreement pursuant to which the Lock-up Party may agree to transfer, sell, tender or otherwise dispose of shares of common stock or other such securities in connection with such transaction, or vote any shares of common stock or other such securities in favor of any such transaction), provided that in the event that such tender offer, merger, amalgamation, consolidation or other similar transaction is not completed, the Lock-up Party's shares of common stock and related securities shall remain subject to the provisions of the lock-up agreement; and (xiii) to us in connection with (a) the termination of the Lock-up Party's employment with us, or (b) pursuant to agreements under which we have the option to repurchase such shares; and (xiv) in connection with the conversion or reclassification of a class or series of common stock of ours to another class or series of common stock (including the conversion of shares of non-voting common stock into shares of voting common stock and vice versa), it being understood that any such shares of common stock and/or related securities received by the Lock-up Party upon such conversion shall be subject to the restrictions on transfer set forth in the lock-up agreement; provided that (A) in the case of any transfer pursuant to clauses (i) through (viii) above, each transferee executes and delivers to the representatives an agreement in form and substance satisfactory to the representatives stating that such transferee is receiving and holding such shares of common stock and/or related securities subject to the provisions of the lock-up agreement and agrees not to sell or offer to sell such shares of common stock and/or related securities, engage in any swap or engage in any other activities restricted under the lock-up agreement except in accordance with the lock-up agreement (as if such transferee had been an original signatory thereto); (B) in the case of any transfer pursuant to clauses (i) through (vii), such transfer shall not involve a disposition for value; (C) in the case of any transfer pursuant to clauses (ii), (iii), and (v) above, prior to the expiration of the lock-up period, no public disclosure or filing under the Exchange Act by any party to the transfer (donor, donee, transferor or transferee) shall be required, or made voluntarily, reporting a reduction in beneficial ownership of shares of common stock in connection with such transfer; and (D) in the case of any transfer pursuant to clauses (i), (iv), (vi), (vii), (viii)(B), (ix), (x), (xi), and (xiii), prior to the expiration of the lock-up period, no public disclosure or filing under the Exchange Act by any party to the transfer (donor, donee, transferor or transferee) shall be made voluntarily during the lock-up period, and if the Lock-up Party is required to file a report under Section 16 of the Exchange Act reporting a change in beneficial ownership of shares of common stock or related securities during the lock-up period, the Lock-up Party shall include a statement in such report indicating the circumstances of such transfer and, in the case of a transfer pursuant to clauses (i) through (vii), that the transferee has agreed to be bound by the terms of the lock-up agreement.

In addition, the Lock-Up Party may (a) effect sales or transfers of shares of Common Stock pursuant to a 10b5-1 trading plan that complies with Rule 10b5-1 under the Exchange Act ("10b5-1 trading plan") in effect on the date of the Prospectus and disclosed to the Representative prior to the date hereof, provided that any filing under Section 16 of the Exchange Act made in connection with such sales shall clearly indicate in the footnotes thereto that such disposition of shares of Common Stock was pursuant to a 10b5-1 Plan and (b) establish or amend any contract, instruction or plan (a "Plan") that satisfies all of the requirements of Rule 10b5-1(c)(1)(i)(B) under the Exchange Act; provided that no sales of a Lock-up Party's shares of common stock shall be made pursuant to such a Plan prior to the expiration of the lock-up period, and such Plan may only be established if any required public disclosure, announcement or filing under the Exchange Act made by us or any person regarding the establishment or amendment of such plan during the lock-up period shall include a statement that the Lock-up Party is not permitted to transfer, sell or otherwise dispose of securities under such plan during the lock-up period in contravention of the lock-up agreement, and no such announcement or filing is made voluntarily, by the Lock-up Party, us or any other person, prior to the expiration of the lock-up period; provided, however, that the foregoing shall not prohibit any disclosure, announcement or filing required by applicable law or the rules and regulations of the Commission (including, without limitation, any disclosure required under the Commission's rules regarding Plans adopted or modified on or after February 27, 2023).

New York Stock Exchange Listing

The shares are listed on the New York Stock Exchange under the symbol "ANRO."

Price Stabilization, Short Positions

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. The underwriters may close out any covered short position by purchasing shares 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. 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 our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the completion of 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. The underwriters may conduct these transactions on the New York Stock Exchange, in the over-the-counter market or otherwise.

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. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the underwriters and 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 account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

European Economic Area

In relation to each Member State of the European Economic Area (each, a "Relevant Member State"), an offer to the public of any securities may not be made in that Relevant Member State prior to the publication of a prospectus in relation to the securities which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Regulation,

except that an offer to the public in that Relevant Member State of any securities may be made at any time under the following exemptions under the Prospectus Regulation:

- a. to any legal entity which is a qualified investor as defined under the Prospectus Regulation;
- b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of representatives 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 securities shall result in a requirement for the Company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or a supplemental prospectus pursuant to Article 23 of the Prospectus Regulation and each person who initially acquires any securities or to whom any offer is made will be deemed to have represented, warranted and agreed to and with each of the underwriters and the Company that it is a qualified investor within the meaning of Article 2 of the Prospectus Regulation.

In the case of any securities being offered to a financial intermediary as that term is used in Article 1(4) of the Prospectus Regulation, each financial intermediary will also be deemed to have represented, warranted and agreed that the securities acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any securities to the public, other than their offer or resale in a Relevant Member State to qualified investors as so defined or in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an “offer to the public” in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase or subscribe for any securities, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129.

The above selling restriction is in addition to any other selling restrictions set out below.

Notice to Prospective Investors in the United Kingdom

This prospectus has been prepared on the basis that the offering of the securities falls within one of the exceptions specified in Part 1 of Schedule 1 of the Public Offers and Admissions to Trading Regulations 2024 (the “POATRs”) and, accordingly, there will not be a prospectus prepared or published for the purposes of the POATRs. This prospectus does not constitute a prospectus for the purposes of the POATRs.

An offer to the public of any ordinary shares may not be made in the U.K., except that an offer to the public in the U.K. of any ordinary shares may be made at any time under the following exemptions:

- a. at any time to any legal entity which is a qualified investor as defined in paragraph 15 of Schedule 1 to the POATRs;
- b. at any time to fewer than 150 persons (other than qualified investors as defined in paragraph 15 of Schedule 1 to the POATRs) in the U.K. subject to obtaining the prior consent of the relevant underwriters nominated by us for any such offer; or
- c. at any time in any other circumstances falling within Part 1 of Schedule 1 to the POATRs.

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

Notice to Prospective Investors in Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (“SIX”) or on any other stock exchange or regulated trading facility in Switzerland. This document has been

prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of 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 securities.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus supplement relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority ("DFSA"). This prospectus supplement is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus supplement nor taken steps to verify the information set forth herein and has no responsibility for the prospectus supplement. The securities to which this prospectus supplement relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the securities offered should conduct their own due diligence on the securities. If you do not understand the contents of this prospectus supplement you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission ("ASIC"), in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the "Corporations Act"), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the securities may only be made to persons (the "Exempt Investors") who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The securities applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring securities must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in Hong Kong

The securities have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance

(Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a “prospectus” as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the securities has been or may be issued or has been or may be in the possession of any person for the purposes of issue, 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 to do so under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The securities have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, “Japanese Person” shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the securities were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the securities, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (the “SFA”)) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, 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
- 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 or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust shall not be 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:

- (a) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
- where no consideration is or will be given for the transfer;
- where the transfer is by operation of law; or
- as specified in Section 276(7) of the SFA.

Notice to Prospective Investors in Canada

The securities may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) 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 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.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Brazil

THE OFFER AND SALE OF THE SECURITIES HAVE NOT BEEN AND WILL NOT BE REGISTERED WITH THE BRAZILIAN SECURITIES COMMISSION (COMISSÃO DE VALORES MOBILIÁRIOS, OR "CVM") AND, THEREFORE, WILL NOT BE CARRIED OUT BY ANY MEANS THAT WOULD CONSTITUTE A PUBLIC OFFERING IN BRAZIL UNDER CVM RESOLUTION NO 160, DATED 13 JULY 2022, AS AMENDED ("CVM RESOLUTION 160") OR UNAUTHORIZED DISTRIBUTION UNDER BRAZILIAN LAWS AND REGULATIONS. THE SECURITIES MAY ONLY BE OFFERED TO BRAZILIAN PROFESSIONAL INVESTORS (AS DEFINED BY APPLICABLE CVM REGULATION), WHO MAY ONLY ACQUIRE THE SECURITIES THROUGH A NON-BRAZILIAN ACCOUNT, WITH SETTLEMENT OUTSIDE BRAZIL IN NON-BRAZILIAN CURRENCY. THE TRADING OF THESE SECURITIES ON REGULATED SECURITIES MARKETS IN BRAZIL IS PROHIBITED.

The Company has agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the issuer and to persons and entities with relationships with the issuer, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of the issuer (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the issuer. The underwriters and 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 assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus supplement will be passed upon for us by Cooley LLP, Chicago, Illinois. Latham & Watkins LLP, New York, New York is acting as counsel for the underwriters in connection with this offering. [As of the date of this prospectus, partners of Cooley LLP and GC&H Investments, LLC, an entity comprising partners and associates of Cooley LLP, beneficially own [57,569] shares of common stock.]

EXPERTS

The financial statements of Alto Neuroscience, Inc. as of December 31, 2025 and 2024, and for each of the two years in the period ended December 31, 2025, incorporated by reference in this Prospectus Supplement, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the report of such firm given their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov. Copies of certain information filed by us with the SEC are also available on our website <https://altoneuroscience.com/>. Our website is not a part of this prospectus supplement and is not incorporated by reference in this prospectus supplement.

This prospectus supplement is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus supplement and the accompanying prospectus regarding us and the securities, including certain exhibits and schedules. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC's internet site.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference in this prospectus supplement and the accompanying prospectus much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus supplement and the accompanying prospectus is considered to be part of this prospectus supplement and the accompanying prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus supplement and the accompanying prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus supplement and the accompanying prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus supplement, the accompanying prospectus or any document previously incorporated by reference have been modified or superseded. This prospectus supplement and the accompanying prospectus incorporate by reference the documents listed below (File No. 001-41944) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) until the offering of the securities under the registration statement is terminated or completed:

- [our Annual Report on Form 10-K for the fiscal year ended December 31, 2025, filed with the SEC on March 16, 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, filed with the SEC on March 26, 2026;](#)
- [our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2026, filed with the SEC on May 13, 2026;](#)
- our Current Reports on Form 8-K filed with the SEC on [March 16, 2026](#), [April 1, 2026](#), [May 13, 2026](#), [May 28, 2026](#) and [July 13, 2026](#) (each to the extent the information in such reports is filed and not furnished); and
- the description of our common stock contained in our registration statement on [Form 8-A, filed with the SEC on January 30, 2024](#), as updated by [Exhibit 4.5](#) of our Annual Report on Form 10-K for the year ended December 31, 2024, filed with the SEC on March 20, 2025, including any amendments or reports filed for the purpose of updating such description.

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

Alto Neuroscience, Inc.
Attn: Corporate Secretary
650 Castro Street, Suite 450
Mountain View, California 94041
(650) 200-0412

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.

PROSPECTUS



Up to \$75,000,000 Common Stock

We have entered into a sales agreement, or the Sales Agreement, with Leerink Partners LLC, or Leerink Partners, dated February 3, 2025, relating to shares of our common stock, \$0.0001 par value per share, offered by this prospectus. In accordance with the terms of the Sales Agreement, we may offer and sell shares of our common stock, having an aggregate offering price of up to \$75,000,000 from time to time through Leerink Partners, acting as our sales agent.

Our common stock is listed on the New York Stock Exchange under the trading symbol “ANRO.” On January 31, 2025, the last reported sale price of our common stock was \$4.29 per share.

Sales of our common stock, if any, under this prospectus may be made in sales deemed to be an “at-the-market” offering as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, or the Securities Act. Subject to the terms of the Sales Agreement, Leerink Partners is not required to sell any specific number or dollar amounts of securities but will act as sales agent and use commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us, consistent with their normal trading and sales practices, on mutually agreed terms between Leerink Partners and us. There is no arrangement for funds to be received in any escrow, trust, or similar arrangement.

Leerink Partners will be entitled to compensation at a commission of up to 3.0% of the aggregate gross sales price per share sold under the Sales Agreement. In connection with the sale of our common stock on our behalf, Leerink Partners may be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of Leerink Partners may be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Leerink Partners with respect to certain liabilities, including liabilities under the Securities Act. See the section entitled “Plan of Distribution” beginning on page 13 of this prospectus for additional information regarding the compensation to be paid to Leerink Partners.

We are an “emerging growth company” and “smaller reporting company” under the federal securities laws and are subject to reduced public company reporting requirements. See the section entitled “Prospectus Summary — Implications of Being an Emerging Growth Company and Smaller Reporting Company.”

Investing in our common stock involves a high degree of risk. Before making an investment decision, you should review carefully and consider all of the information set forth in this prospectus and the documents incorporated by reference in this prospectus. See the section entitled “Risk Factors” beginning on page 8 of this prospectus and in the documents 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 determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Leerink Partners

The date of this prospectus is February 11, 2025.

TABLE OF CONTENTS

<u>ABOUT THIS PROSPECTUS</u>	<u>1</u>
<u>PROSPECTUS SUMMARY</u>	<u>3</u>
<u>RISK FACTORS</u>	<u>8</u>
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>9</u>
<u>USE OF PROCEEDS</u>	<u>11</u>
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>12</u>
<u>DESCRIPTION OF DEBT SECURITIES</u>	<u>20</u>
<u>DESCRIPTION OF WARRANTS</u>	<u>27</u>
<u>LEGAL OWNERSHIP OF SECURITIES</u>	<u>29</u>
<u>PLAN OF DISTRIBUTION</u>	<u>32</u>
<u>LEGAL MATTERS</u>	<u>35</u>
<u>EXPERTS</u>	<u>35</u>
<u>WHERE YOU CAN FIND ADDITIONAL INFORMATION</u>	<u>35</u>
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	<u>36</u>

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we have filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. Under this shelf registration statement, we may, from time to time, offer and sell, either individually or in combination, in one or more offerings, with an aggregate offering price of up to \$300,000,000 of any combination of the securities described in this prospectus.

This prospectus provides you with a general description of the securities we may offer. Each time we offer securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectuses that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents that we have incorporated by reference into this prospectus. We urge you to read carefully this prospectus, any applicable prospectus supplement and any free writing prospectuses we have authorized for use in connection with a specific offering, together with the information incorporated herein by reference as described under the heading “Incorporation of Certain Information by Reference,” before buying any of the securities being offered.

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

We have not authorized any other person to provide you with any information or to make any representations other than those contained in, or incorporated by reference into, this prospectus, any related prospectus supplement and any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. You should assume that the information appearing in this prospectus, any related prospectus supplement and the documents incorporated by reference into this prospectus, any related prospectus supplement and in any free writing prospectuses that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus, any related prospectus supplement, the documents incorporated by reference into this prospectus, and any free writing prospectuses that we may authorize for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus captioned “Where You Can Find Additional Information” and “Incorporation of Certain Information by Reference.”

We are not making an offer to sell or soliciting an offer to buy our securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. We are offering to sell, and seeking offers to buy, our securities only in jurisdictions where offers and sales are permitted. The distribution of this prospectus and any related prospectus supplement or free writing prospectuses and the offering of our securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus and any related prospectus supplement or free writing prospectuses must inform themselves about, and observe any restrictions relating to, the offering of our securities and the distribution of this prospectus and any related prospectus supplement outside the United States. This prospectus and any related prospectus supplement or free writing prospectuses does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus and any related prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

We obtained the industry and market data in this prospectus, including the information incorporated by reference herein, from our own research as well as from industry and general publications, surveys and studies conducted by third parties. These data involve a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate is necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in “Risk

Factors” and elsewhere in this prospectus, any related prospectus supplement, documents incorporated by reference into this prospectus and any related or free writing prospectuses. These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

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

PROSPECTUS SUMMARY

The Company

We are a clinical-stage biopharmaceutical company with a mission to redefine psychiatry by leveraging neurobiology to develop personalized and highly effective treatment options. We aim to deeply understand brain function and match patients to the right medication more efficiently through the use of treatments that, if approved, are tailored to specific patient populations. As a result, we believe we can help patients avoid the often-lengthy process of trying multiple ineffective treatments before finding one to which they respond, potentially helping patients get better faster. Through insights derived from our scalable and proprietary Precision Psychiatry Platform, or our Platform, which applies rigorous data science and robust analytics to data gathered by neurocognitive assessments, electroencephalography, or EEG, and wearable devices, we aim to discover brain-based biomarkers to better identify which patients are more likely to respond to our novel product candidates. Our approach is designed to improve patient outcomes and increase the likelihood of clinical success and commercial impact of our product candidates by using neurobiological profiles to identify more homogeneous patient groups. Ultimately, if we are successful, we believe our approach can substantially improve upon the traditional, all-comer approach to CNS drug development.

We are advancing a pipeline of five clinical-stage product candidates, initially targeting major depressive disorder, or MDD, bipolar depression, or BPD, and schizophrenia populations. Our most advanced product candidates are in Phase 2 clinical development. ALTO-300, also known as agomelatine, is a novel product candidate in the U.S., but has been approved as an antidepressant in Europe and Australia since 2010. Agomelatine is believed to work through agonizing melatonin receptors and antagonizing 5HT_{2C} receptors. We are developing ALTO-300 for MDD in the U.S., using an EEG based biomarker to identify patients that potentially are more likely to be responders to the product candidate. ALTO-203 is a novel product candidate believed to work as a histamine receptor inverse agonist that we are developing for the treatment of MDD in patients with increased levels of anhedonia. ALTO-100 is a novel product candidate believed to work through the enhancement of neuroplasticity that we are developing for the treatment of people with BPD characterized by a verbal memory biomarker. Additionally, we are advancing ALTO-101, a novel PDE4 inhibitor delivered via a transdermal delivery system, for the treatment of cognitive impairment associated with schizophrenia, or CIAS. The pipeline graphic below depicts the current status of our product candidates.

Product Candidate (MOA/Target)	Lead Indication	Phase 1		Phase 2		Phase 3	
		Safety & Brain Effects ¹	Proof-of-Concept	Efficacy in Biomarker Positive	Registration Trial(s)		
ALTO-100 (BDNF)	Bipolar Depression			Phase 2b Ongoing			
ALTO-300 (MT1/2 & 5HT _{2C})	MDD			Phase 2b Ongoing			
ALTO-203 (H ₃)	MDD		Phase 2 POC Ongoing				
ALTO-101 (PDE4)	Schizophrenia		Phase 2 POC Ongoing				
ALTO-202 (NMDA NR2B)	MDD						

BDNF: Brain Derived Neurotrophic Factor; MDD: Major Depressive Disorder; PTSD: Post Traumatic Stress Disorder; MT1/2: Melatonin Receptor 1 and 2; 5-HT_{2C}: 5-Hydroxytryptamine Receptor 2C; PDE4: Phosphodiesterase-4; H₃: Histamine H₃ Receptor; NMDA NR2B: N-methyl-D-aspartate Receptor Subtype 2B

¹We have active investigational new drug applications, or INDs, for each of ALTO-100, ALTO-300, ALTO-101, ALTO-203, and ALTO-202 in the indications listed. ALTO-100, ALTO-101, ALTO-203, and ALTO-202 were evaluated in Phase 1 safety trials by their respective originators prior to our acquisition or licensing of the product candidate.

Corporate Information

Alto Neuroscience, Inc., was incorporated under the laws of the State of Delaware in March 2019. Our principal executive offices are located at 650 Castro Street, Suite 450, Mountain View, CA 94041. The telephone number at our executive office is (650) 200-0412. Our corporate website address is www.altoneuroscience.com. We do not incorporate the information contained on, or accessible through, our website into this prospectus, and you should not consider it part of this prospectus. Our website address is included in this prospectus as an inactive textual reference only.

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

We are an “emerging growth company,” as defined in Section 2(a) of the Securities Act of 1933, as amended, or the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including relief from the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, less extensive disclosure obligations regarding executive compensation in our registration statements, periodic reports and proxy statements, exemptions from the requirements to hold a nonbinding advisory vote on executive compensation, and exemptions from stockholder approval of any golden parachute payments not previously approved. We may also elect to take advantage of other reduced reporting requirements in future filings. As a result, our stockholders may not have access to certain information that they may deem important and the information that we provide to our stockholders may be different than, and not comparable to, information presented by other public reporting companies. We could remain an emerging growth company until the earlier of (i) the last day of the fiscal year following the fifth anniversary of the closing of our initial public offering, (ii) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.235 billion, (iii) the last day of the fiscal year in which we are deemed to be a “large accelerated filer” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which would occur if the market value of our common stock held by non-affiliates exceeded \$700.0 million as of the last business day of the second fiscal quarter of such year or (iv) the date on which we have issued more than \$1.0 billion in non-convertible debt securities during the prior three-year period.

In addition, the JOBS Act provides that an emerging growth company may take advantage of the extended transition period provided in the Securities Act for complying with new or revised accounting standards. An emerging growth company may therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption and, as a result, will not be subject to the same implementation timing for new or revised accounting standards as are required of other public companies that are not emerging growth companies, which may make comparison of our consolidated financial information to those of other public companies more difficult.

We are also a “smaller reporting company,” as defined in the Exchange Act. We will continue to be a smaller reporting company even after we cease to be an emerging growth company, as long as (i) the market value of our common stock held by non-affiliates is less than \$250.0 million measured on the last business day of our second fiscal quarter or (ii) our annual revenue is less than \$100.0 million during the most recently completed fiscal year and the market value of our common stock held by non-affiliates is less than \$700.0 million measured on the last business day of our second fiscal quarter. 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.

The Securities We May Offer

We may offer shares of our common stock and preferred stock, various series of debt securities and/or warrants to purchase any of such securities, either individually or in combination, with an aggregate offering price of up to \$300,000,000, from time to time under this prospectus, together with the applicable prospectus supplement and any related free writing prospectuses, at prices and on terms to be determined by market

conditions at the time of any offering. We may also offer common stock, preferred stock and/or debt securities upon the exercise of warrants. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity date, if applicable;
- original issue discount, if any;
- rates and times of payment of interest or dividends, if any;
- redemption, conversion, exercise, exchange or sinking fund terms, if any;
- conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
- ranking, if applicable;
- restrictive covenants, if any;
- voting or other rights, if any; and
- material or special U.S. federal income tax considerations, if any.

The applicable prospectus supplement and any related free writing prospectuses that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents we have incorporated by reference. However, no prospectus supplement or free writing prospectuses will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

We may sell the securities directly to investors or to or through agents, underwriters or dealers. We and our agents, underwriters or dealers, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities to or through agents, underwriters or dealers, we will include in the applicable prospectus supplement:

- the names of those agents, underwriters or dealers;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the estimated net proceeds to us.

Common Stock. We may issue shares of our common stock from time to time. The holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders. Subject to preferences that may be applicable to any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably such dividends as may be declared by our board of directors out of legally available funds. Upon our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preferences of any outstanding shares of preferred stock. Holders of common stock have no preemptive or subscription rights and no right to convert their common stock into any other securities. There are no redemption or sinking fund provisions applicable to our common stock. In this prospectus, we have summarized certain general features of the common stock under the section entitled “Description of Capital Stock — Common Stock.” We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectuses that we may authorize to be provided to you) related to any common stock being offered.

Preferred Stock. We may issue shares of our preferred stock from time to time, in one or more series. Our board of directors will determine the designations, voting powers, preferences and rights of the preferred stock, as well as the qualifications, limitations or restrictions thereof, including dividend rights, conversion rights, preemptive rights, terms of redemption or repurchase, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Convertible preferred stock will be convertible into our common stock or exchangeable for other securities. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

If we sell any series of preferred stock under this prospectus as supplemented by a prospectus supplement, and if applicable, free writing prospectus, we will fix the designations, voting powers, preferences and rights of the preferred stock of each series we issue under this prospectus, as well as the qualifications, limitations or restrictions thereof, in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that contains the terms of the series of preferred stock we are offering. In this prospectus, we have summarized certain general features of the preferred stock under the section entitled “Description of Capital Stock — Preferred Stock.” We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectuses that we may authorize to be provided to you) related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

Debt Securities. We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. The senior debt securities will rank equally with any other unsecured and unsubordinated debt. The subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner described in the instrument governing the debt, to all of our senior indebtedness. Convertible debt securities will be convertible into or exchangeable for our common stock or other securities. Conversion may be mandatory or at the holder’s option and would be at prescribed conversion rates.

Any debt securities issued under this prospectus will be issued under one or more documents called indentures, which are contracts between us and a national banking association or other eligible party, as trustee. In this prospectus, we have summarized certain general features of the debt securities under “Description of Debt Securities.” We urge you, however, to read the applicable prospectus supplement (and any free writing prospectuses that we may authorize to be provided to you) related to the series of debt securities being offered, as well as the complete indentures that contain the terms of the debt securities. We have filed the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

Warrants. We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or in combination with common stock, preferred stock and/or debt securities, and the warrant may be attached to or separate from these securities. In this prospectus, we have summarized certain general features of the warrants under “Description of Warrants.” We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectuses that we may authorize to be provided to you) related to the particular series of warrants being offered, as well as any warrant agreements and warrant certificates that contain the terms of the warrants. We have filed forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants that may be offered as exhibits to the registration statement of which this prospectus is a part. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants.

Any warrants issued under this prospectus may be evidenced by warrant certificates. Warrants also may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered.

Use of Proceeds

Except as described in any applicable prospectus supplement or in any free writing prospectuses we have authorized for use in connection with a specific offering, we currently intend to use the net proceeds from the sale of the securities offered by us hereunder, if any, for general corporate purposes, including but not limited to, clinical trial expenses, research and development expenses, general and administrative expenses, and capital expenditures, or for any other purpose we describe in the applicable prospectus supplement. See the section entitled “Use of Proceeds” in this prospectus.

New York Stock Exchange Listing

Our common stock is listed on the New York Stock Exchange under the symbol “ANRO.” The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on the New York Stock Exchange or other securities exchange of the securities covered by the applicable prospectus supplement.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described under the section entitled “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectuses, and discussed under the section entitled “Risk Factors” contained in our most recent Annual Report on Form 10-K and in our subsequent Quarterly Reports on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC, which are incorporated by reference into this prospectus in their entirety, together with other information in this prospectus, the documents incorporated by reference and any applicable prospectus supplement and free writing prospectuses that we may authorize for use in connection with this offering. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow 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. Please also read carefully the section below entitled “Special Note Regarding Forward-Looking Statements.”

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplement and the documents we have filed with the SEC that are incorporated by reference herein and therein contain forward-looking statements about us and our industry that involve substantial risks and uncertainties. All statements other than statements of historical fact contained in this prospectus, the applicable prospectus supplement, and the documents we have filed with the SEC that are incorporated by reference herein and therein, including statements regarding our plans, objectives, goals, strategies, future events, future revenues or performance, financing needs, plans, or intentions relating to product candidates and markets and business trends, are forward-looking statements. Discussions containing these forward-looking statements may be found, among other places, in the section entitled “Risk Factors” in this prospectus and any applicable prospectus supplement, as well as under 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 and therein. We have based these forward-looking statements largely on our current expectations and projections. In some cases, you can identify forward-looking statements because they contain words such as “anticipate,” “believe,” “can,” “contemplate,” “continue,” “could,” “design,” “estimate,” “expect,” “intend,” “may,” “might,” “objective,” “plan,” “potential,” “predict,” “project,” “shall,” “should,” “target,” “will,” or “would,” or the negative of these words or other similar terms or expressions. These statements involve known and unknown risks, uncertainties, and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the initiation, timing, progress, and results of our research and development programs, preclinical studies, any clinical trials, and Investigational New Drug and other regulatory submissions;
- the ability of our approach to reproducibly predict treatment outcomes for product candidates amongst identified patient populations and achieve clinical success;
- our ability to continue to identify appropriate biomarkers for use in further clinical development;
- the timing of and costs involved in obtaining and maintaining regulatory approval of our current product candidates and any future product candidates that we may identify or develop;
- the beneficial characteristics, including potential safety, efficacy, and therapeutic effects, of our product candidates;
- our ability to efficiently and cost-effectively conduct our current and future clinical trials;
- our ability to obtain funding for our operations necessary to complete further development and commercialization of our product candidates, if approved;
- our ability to maintain existing, and establish new, strategic collaborations, licensing, or other arrangements, including our ability to comply with our financial obligations pursuant to the terms of such agreements;
- the timing and likelihood of the achievement of milestones pursuant to our existing collaboration and licensing agreements;
- our ability to identify and develop product candidates for treatment of additional indications;
- the performance of our third-party service providers, including our suppliers and manufacturers;
- the rate and degree of market acceptance and clinical utility for our current product candidates and any other product candidates we may develop;
- the effects of competition with respect to our current product candidates or any of our future product candidates, as well as innovations by current and future competitors in our industry;
- our estimates regarding the potential market opportunities and the number of patients for our product candidates and any future product candidates, if approved for commercial use;
- the implementation of our strategic plans for our business, any product candidates we may develop;

- our intellectual property position, including the scope of protection we are able to establish, maintain, defend and enforce for intellectual property rights covering our product candidates and our Precision Psychiatry Platform;
- our ability to attract and retain key scientific or management personnel;
- regulatory and legal developments in the United States and foreign countries;
- our ability to attract and retain employees and collaborators with development, regulatory, and commercialization expertise;
- our ability to comply with the terms of our loan agreements and our expectations regarding our ability to access additional tranches thereunder;
- the accuracy of our estimates regarding future expenses, future revenue, capital requirements, and need for additional financing;
- the period over which we estimate our existing cash and cash equivalents will be sufficient to fund our future operating expenses and capital expenditure requirements;
- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act;
- our use of cash and other resources, including our expected use of proceeds from any offering under this prospectus; and
- other risks and uncertainties, including those listed under the caption “Risk Factors.”

These forward-looking statements reflect our management’s beliefs and views with respect to future events and are based on estimates and assumptions as of the date the statement is made and are subject to risks and uncertainties. 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 the statement is made, 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 investors are cautioned not to unduly rely upon these statements. We discuss many of the risks associated with the forward-looking statements in greater detail under the heading “Risk Factors” included in this prospectus, the applicable prospectus supplement, in any free writing prospectuses we may authorize for use in connection with a specific offering, and in our most recent Annual Report on Form 10-K and in our subsequent Quarterly Reports on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC, which are incorporated by reference into this prospectus in their entirety. You should evaluate all forward-looking statements in the context of these risks and uncertainties. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should carefully read this prospectus, any applicable prospectus supplement, together with the documents we have filed with the SEC that are incorporated by reference, and any free writing prospectuses that we may authorize for use in connection with a specific offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events, or otherwise.

USE OF PROCEEDS

Except as described in any prospectus supplement or in any related free writing prospectus that we may authorize to be provided to you in connection with a specific offering, we currently intend to use the net proceeds from the sale of securities under this prospectus for general corporate purposes, including but not limited to, clinical trial expenses, research and development expenses, general and administrative expenses and capital expenditures. We may also use a portion of the net proceeds to in-license, invest in or acquire businesses, assets or technologies that we believe are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions. As of the date of this prospectus, we cannot specify with certainty all of the particular uses of the net proceeds, if any, from the sale of securities under this prospectus. Accordingly, we will retain broad discretion over the use of such proceeds. We will set forth in the applicable prospectus supplement or free writing prospectus our intended use of the net proceeds received from the sale of any securities sold pursuant to the prospectus supplement or free writing prospectus. Pending the use of the net proceeds as described above, we intend to invest the net proceeds in investment-grade, interest-bearing instruments.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and certain provisions of our amended and restated certificate of incorporation, or the restated certificate, our amended and restated bylaws, or the restated bylaws, and applicable provisions of the General Corporation Law of the State of Delaware, or the DGCL are summaries and are qualified by reference to the restated certificate and the restated bylaws, which are included as exhibits to the registration statement of which this prospectus is part, and the DGCL.

General

The restated certificate authorizes us to issue up to 500,000,000 shares of common stock, par value \$0.0001 per share, and 10,000,000 shares of preferred stock, par value \$0.0001 per share, all of which shares of preferred stock are undesignated. Our board of directors may establish the rights and preferences of the preferred stock from time to time.

Common Stock

Voting

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the voting shares are able to elect all of the directors.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, the holders of common stock are entitled to receive ratably dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding-up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Rights, Preferences, and Privileges

Holders of our common stock have no preemptive, conversion, or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. 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.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are fully paid and nonassessable.

Preferred Stock

Under our restated certificate, our board of directors has the authority, subject to limitations prescribed by Delaware law, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations, or restrictions thereon and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance

of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock.

Our board of directors will fix the designations, voting powers, preferences and rights, as well as the qualifications, limitations, or restrictions thereof, of the preferred stock of each series that we offer under this prospectus and applicable prospectus supplements in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering. We will describe in the applicable prospectus supplement the terms of the series of preferred stock being offered, including, to the extent applicable:

- the title and stated value;
- the number of shares we are offering;
- the liquidation preference per share;
- the purchase price per share;
- the dividend rate per share, dividend period and payment dates and method of calculation for dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- our right, if any, to defer payment of dividends and the maximum length of any such deferral period;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock or other securities of ours, and, if applicable, the conversion period, the conversion price, or how it will be calculated, and under what circumstances it may be adjusted;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange period, the exchange price, or how it will be calculated, and under what circumstances it may be adjusted;
- voting rights, if any, of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale, or other assignment, if any;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material or special 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 if we liquidate, dissolve or wind up our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock being issued as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and
- any other specific terms, rights, preferences, privileges, qualifications, or restrictions on, the preferred stock.

The DGCL provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our certificate of incorporation if the amendment would change the par value or, unless the certificate of incorporation provided otherwise, the number of authorized shares of the class or change the powers, preferences or special rights of the class or series so as to adversely affect the class or series, as the case may be. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

The issuance of preferred stock could adversely affect the voting power of holders of common stock and reduce the likelihood that common stockholders will receive dividend payments and payments upon liquidation. The issuance could have the effect of decreasing the market price of the common stock. The issuance of preferred stock also could have the effect of delaying, deterring or preventing a change in control of us.

K2 Loan Agreement and Warrants

In December 2022, we entered into a loan and security agreement, or the Original Loan Agreement, with K2 HealthVentures LLC, as a lender and the other lenders from time to time party thereto, or collectively, the Lender, K2 HealthVentures LLC, as administrative agent for the Lender, and Ankura Trust Company, LLC, as collateral agent for the Lender. In connection with our entry into the Original Loan Agreement, we issued a warrant, or the Original Warrant, to K2 HealthVentures Equity Trust LLC. In January 2025, we entered into the first amendment to the Original Loan Agreement, or the Amendment, amending the terms of the Original Loan Agreement, or, as amended, the Amended Loan Agreement, to, among other things, extend the maturity date of the term loan facility thereunder from December 1, 2026 to January 1, 2029 and increase the maximum available amount of term loans from \$35.0 million to \$75.0 million.

Under the Amended Loan Agreement, the Lender may, at its option, elect to convert any portion of no more than \$9.0 million of the then outstanding term loan amount, or the Conversion Amount, (\$4.0 million of which was reflected in the Original Loan Agreement and \$5.0 million of which is reflected in the Amendment) into shares of our common stock, or the Conversion Shares. The number of shares to be issued upon conversion is determined by dividing (a) the portion of the term loan amount converted, by (b) the Applicable Conversion Price. Applicable Conversion Price means (i) with respect to any conversion of up to \$4.0 million of the Conversion Amount, \$10.49, and (ii) with respect to any conversion of the remaining \$5.0 million of the Conversion Amount, \$4.8259, in each case subject to certain adjustments set forth in the Amended Loan Agreement.

Under the terms of the Amended Loan Agreement, no conversion is permitted to the extent that, upon such issuance, the number of shares of common stock then beneficially owned by the Lender or a designated affiliate, together with their affiliates and any other persons or entities whose beneficial ownership of common stock would be aggregated with such holder's for purposes of Section 13(d) of the Exchange Act would exceed 9.985% of the total number of shares of our common stock then issued and outstanding, or the Beneficial Ownership Cap. The Lender has the right, upon 61 days' prior written notice to us, to waive the Beneficial Ownership Cap. Notwithstanding any such waiver, under the terms of the Amended Loan Agreement, no conversion is permitted if the issuance of shares upon conversion, together with any shares previously issued upon a conversion and any shares previously issued upon exercise of a Warrant (as defined below), would result in (a) the issuance of more than 19.99% of our common stock outstanding as of the effective date of the Amendment or (b) the Lender or a designated affiliate, together with their affiliates and any other persons or entities whose beneficial ownership would be aggregated with such holder's for purposes of Section 13(d) of the Exchange Act, beneficially owning in excess of 19.99% of our then-outstanding common stock, in each case if such issuance would require prior approval of our stockholders pursuant to New York Stock Exchange listing rules.

In connection with the Amendment, the Original Warrant was amended and restated, or the Amended and Restated Warrant, to lower the exercise price to \$3.7122 per share, or the Exercise Price. The Amended and Restated Warrant is exercisable for 35,773 shares of our common stock and expires on December 15, 2032. Further, in connection with the Amendment, we issued an additional warrant, or the New Warrant, together with the Amended and Restated Warrant the Warrants and each a Warrant, to purchase a number of shares of our common stock calculated as follows: (a) (i) 0.025, multiplied by (ii) the aggregate principal

amount of the term loans actually funded under the Amended Loan Agreement, divided by (b) the Exercise Price. The New Warrant expires on January 13, 2035. The exercise of the Warrants is subject to the same beneficial ownership and overall share issuance limitations set forth above.

Upon exercise or conversion, the shares of common stock underlying the Warrants and convertible portion of the term loans under the Amended Loan Agreement will be entitled to the registration rights set forth in our amended and restated investors' rights agreement. See "— Registration Rights" for additional information.

Wellcome Grant Agreement

In July 2024 we entered into a convertible loan agreement, or the Convertible Grant Agreement, with The Wellcome Trust Limited, or Wellcome, pursuant to which we received a funding award to support our Phase 2b clinical trial evaluating ALTO-100 in patients with bipolar depression. The Convertible Grant Agreement provides for an unsecured convertible loan, or the Wellcome Loan, from Wellcome to us of up to approximately \$11.7 million, payable in six tranches; \$1.3 million was funded upon the execution of the Convertible Grant Agreement, and the remainder will be funded upon draw down of the remaining initiation payment or the completion of certain milestones relating to the Phase 2b clinical trial, subject to certain conditions as described in the Convertible Grant Agreement.

At any time after the second anniversary of the effective date of the Convertible Grant Agreement, Wellcome has the right, at its election, to convert some or all of the Wellcome Loan into shares of our common stock. Any amounts converted pursuant to such conversion right will be converted into common stock at a price per share equal to a 20% discount to the thirty-day volume-weighted average price of our common stock on the New York Stock Exchange at the date of such conversion. In addition, in connection with a Sale (as defined in the Convertible Grant Agreement) of the Company, Wellcome may convert some or all of the Wellcome Loan into common stock at a price per share equal to a 20% discount to the applicable share price, calculated as set forth in the Convertible Grant Agreement. The Convertible Grant Agreement provides that in no event shall the aggregate number of shares of common stock issued pursuant to conversion of the Wellcome Loan exceed 5,363,326, which is equal to 19.9% of the number of shares of our common stock outstanding as of the date of the Convertible Grant Agreement.

At any time after the fifth anniversary of the effective date of the Convertible Grant Agreement, or in connection with a Sale, to the extent not converted as described above, Wellcome may require repayment of the Wellcome Loan in full, together with accrued interest. Upon the occurrence of an event of default, Wellcome may also elect to convert the Wellcome Loan into common stock as described above or to require repayment of the Wellcome Loan in full, as more fully set forth in the Convertible Grant Agreement.

Registration Rights

Certain holders of shares of our common stock are entitled to certain rights with respect to registration of such shares under the Securities Act pursuant to the terms of an amended and restated investors' rights agreement by and among us and certain of our stockholders and our outstanding term loans and warrants, as applicable. These shares are collectively herein referred to as registrable securities.

The amended and restated investors' rights agreement provides the holders of registrable securities with demand, piggyback and S-3 registration rights as described more fully below. As of September 30, 2024, holders of an aggregate of 2,032,595 registrable securities (excluding shares of common stock issuable upon the exercise of the Warrants and conversion of the term loans under the Amended Loan Agreement described above) are entitled to these demand, piggyback and S-3 registration rights. Under the terms of the investors' rights agreement, holders of registrable securities will have equivalent registration rights with respect to any additional shares of our common stock acquired by these holders.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares the holders may include. The demand, piggyback, and Form S-3 registration rights described below will expire on the third anniversary of our initial public offering (or such later date that is 180 days following the expiration of all deferrals of our obligations pursuant to the registration rights section of the amended and restated investors' rights agreement that remain in effect

as of the third anniversary of the consummation of our initial public offering), or with respect to any particular holder, at such time that such holder can sell its shares without limitation under Rule 144 of the Securities Act during any three-month period.

Demand Registration Rights

The holders of the registrable securities are entitled to certain demand registration rights. The holders of a majority of the registrable securities then outstanding may make a written request that we register all or a portion of their shares, subject to certain specified exceptions. Such request for registration must cover securities representing at least a majority of the registrable securities then outstanding. We are not obligated to take any action in response to such request (i) during the period that is estimated to be 60 days before and 180 days after the effective date of a Company-initiated registration, (ii) if we have already effected two registrations pursuant to such requests for registration on Form S-1, or (iii) if the initiating holders propose to register securities that may be immediately registered on Form S-3.

Additionally, if we determine that it would be materially detrimental to us and our stockholders for such registration statement to either become effective or remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving us, (ii) require making a premature disclosure of material information that we have a bona fide business purpose for preserving as confidential, or (iii) render us unable to comply with requirements under the Securities Act or Exchange Act to effect such a demand registration, then we have the right to defer such registration, not more than once in any 12-month period, for an aggregate of up to 90 days.

Piggyback Registration Rights

If we propose to register any of our securities under the Securities Act in another offering, either for our own account or for the account of other security holders, the holders of registrable securities are entitled to notice of the registration and will be entitled to include their shares of common stock in the registration, subject to certain conditions and limitations, including the right of the underwriters to limit the number of shares included in such registration under specified circumstances.

Form S-3 Registration Rights

At any time when we are eligible to use a Form S-3 registration statement, the holders of the registrable securities then outstanding will be entitled to certain Form S-3 registration rights. Any holder of these shares can make a request that we register for offer and sale their shares on Form S-3 if we are qualified to file a registration statement on Form S-3, subject to certain specified exceptions. Such request for registration on Form S-3 must cover securities representing at least 20% of the registrable securities. We are not obligated to take any action in response to such request (i) during the period that is estimated to be 30 days before and 90 days after the effective date of a Company-initiated registration, or (ii) if we have already effected two registrations pursuant to such requests for registration within the preceding 12-month period.

Additionally, if we determine that it would be materially detrimental to us and our stockholders for such registration statement to either become effective or remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving us, (ii) require making a premature disclosure of material information that we have a bona fide business purpose for preserving as confidential, or (iii) render us unable to comply with requirements under the Securities Act or Exchange Act to effect such a demand registration, then we have the right to defer such registration, not more than once in any 12-month period, for an aggregate of up to 90 days.

Expenses of Registration Rights

We are required to pay all expenses, including reasonable fees and expenses, not to exceed \$50,000 per registration, of one counsel to represent the selling stockholders, relating to any demand, piggyback or Form S-3 registration, other than underwriting discounts and commissions, stock transfer taxes, and any additional fees of counsel for the selling stockholders, subject to specified conditions and limitations. We are not required to pay registration expenses if a demand registration request is withdrawn at the request of a

majority of holders of registrable securities to be registered, unless holders of a majority of the registrable securities agree to forfeit their right to one demand registration.

The amended and restated investors' rights agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the applicable registration statement attributable to us, and the selling stockholders are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them, subject to certain limitations.

Anti-Takeover Effects of Provisions of Our Amended and Restated Certificate of Incorporation, Our Amended and Restated Bylaws, and Delaware Law

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the DGCL. Section 203 generally prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the time that such stockholder became an interested stockholder, unless:

- prior to such time the board of directors of the corporation 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 (but not the outstanding voting stock owned by the interested stockholder) those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to such time, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 $\frac{2}{3}$ % 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 or any direct or indirect majority-owned subsidiary of the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder (in one transaction or a series of transactions);
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation or by any direct or indirect majority-owned subsidiary of the corporation of any stock of the corporation or of such subsidiary to the interested stockholder;
- any transaction involving the corporation or any direct or indirect majority-owned subsidiary of the corporation that has the effect, directly or indirectly, of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- any receipt by the interested stockholder of the benefit, directly or indirectly, of any loans, advances, guarantees, pledges, or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as any entity or person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Provisions of our restated certificate and restated bylaws may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares or transactions that our

stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our restated certificate and restated bylaws:

- permit our board of directors to issue, without further action by the stockholders, up to 10,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate (including the right to approve an acquisition or other change in our control) that may be senior to our common stock;
- provide that the authorized number of directors may be changed only by resolution of our board of directors;
- provide that, subject to the rights of any series of preferred stock to elect directors, directors may only be removed for cause, which removal may be effected, subject to any limitation imposed by law, by the holders of at least 66⅔% of the voting power of all of our then-outstanding shares of the common stock entitled to vote generally at an election of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- divide our board of directors into three classes with each class serving three-year staggered terms;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing in a timely manner and also specify requirements as to the form and content of a stockholder's notice;
- do not provide for cumulative voting rights (therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose); and
- provide that special meetings of our stockholders may be called only by the chair of the board, our Chief Executive Officer or by the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors.

Choice of Forum

Our restated certificate and our restated bylaws provide that the Court of Chancery of the State of Delaware (or, if and only if the Court of Chancery of the State of Delaware lacks subject matter jurisdiction, any state court located within the State of Delaware or, if and only if all such state courts lack subject matter jurisdiction, the federal district court for the District of Delaware) will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf; (ii) any action or proceeding asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, officers or other employees to us or our stockholders; (iii) any action or proceeding asserting a claim against us or any of our current or former directors, officers or other employees, arising out of or pursuant to any provision of the DGCL, our restated certificate or our restated bylaws; (iv) any action or proceeding to interpret, apply, enforce or determine the validity of our restated certificate or our restated bylaws (including any right, obligation, or remedy thereunder); (v) any action or proceeding as to which the DGCL confers jurisdiction to the Court of Chancery of the State of Delaware; and (vi) any action asserting a claim against us or any of our directors, officers or other employees governed by the internal affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court's having personal jurisdiction over the indispensable parties named as defendants.

The provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. Additionally, investors cannot waive compliance with the federal securities laws and

the rules and regulations thereunder. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our restated certificate also provides that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act, including all causes of action asserted against any defendant named in such complaint. For the avoidance of doubt, this provision is intended to benefit and may be enforced by us, our officers and directors, the underwriters to any offering giving rise to such complaint, and any other professional entity whose profession gives authority to a statement made by that person or entity and who has prepared or certified any part of the documents underlying the offering.

While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our restated certificate. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

Listing

Our common stock is listed on the New York Stock Exchange under the symbol “ANRO.” The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, on the New York Stock Exchange or any securities market or other exchange of the preferred stock covered by such prospectus supplement.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Equiniti Trust Company, LLC. The transfer agent and registrar’s address is 48 Wall Street, Floor 23, New York, NY 10005. The transfer agent for any series of preferred stock that we may offer under this prospectus will be named and described in the applicable prospectus supplement related to that series.

DESCRIPTION OF DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any debt securities that we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below. Unless the context requires otherwise, whenever we refer to the indenture, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the debt securities under the indenture that we will enter into with the trustee named in the indenture. The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We have filed the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The following summary of material provisions of the debt securities and the indenture is subject to, and qualified in its entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indenture that contains the terms of the debt securities.

General

The indenture does not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and may be in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture do not contain any covenants or other provisions designed to give holders of any debt securities protection against changes in our operations, financial condition or transactions involving us.

We may issue the debt securities issued under the indenture as “discount securities,” which means they may be sold at a discount below their stated principal amount. These debt securities, as well as other debt securities that are not issued at a discount, may be issued with “original issue discount,” or OID, for U.S. federal income tax purposes because of interest payment and other characteristics or terms of the debt securities. Material U.S. federal income tax considerations applicable to debt securities issued with OID will be described in more detail in any applicable prospectus supplement.

We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title of the series of debt securities;
- any limit upon the aggregate principal amount that may be issued;
- the maturity date or dates;
- the form of the debt securities of the series;
- the applicability of any guarantees;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- if the price (expressed as a percentage of the aggregate principal amount thereof) at which such debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;

- the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date or dates, if any, on which, and the price or prices at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities;
- the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities, and the depositary for such global security or securities;
- if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;
- if other than the full principal amount thereof, the portion of the principal amount of debt securities of the series which shall be payable upon declaration of acceleration of the maturity thereof;
- additions to or changes in the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;
- additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and interest, if any, with respect to such securities to be due and payable;
- additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;
- additions to or changes in the provisions relating to satisfaction and discharge of the indenture;
- additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;
- whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any, and principal amounts of the debt securities of the series to any holder that is not a "United States person" for federal tax purposes;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and

- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities. We will include provisions as to settlement upon conversion or exchange and whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indenture will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of our assets as an entirety or substantially as an entirety. However, any successor to or acquirer of such assets (other than a subsidiary of ours) must assume all of our obligations under the indenture or the debt securities, as appropriate.

Events of Default under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indenture with respect to any series of debt securities that we may issue:

- if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;
- if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;
- if we fail to observe or perform any other covenant or agreement contained in the debt securities or the indenture, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive written notice of such failure, requiring the same to be remedied and stating that such is a notice of default thereunder, from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or

events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indenture, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indenture or to appoint a receiver or trustee, or to seek other remedies only if:

- the holder has given written notice to the trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request,
- such holders have offered to the trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred by the trustee in compliance with the request; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indenture.

Modification of Indenture; Waiver

We and the trustee may change an indenture without the consent of any holders with respect to specific matters:

- to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;
- to comply with the provisions described above under “Description of Debt Securities — Consolidation, Merger or Sale;”
- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred upon us in the indenture;
- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;

- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided above under “Description of Debt Securities — General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment under any indenture by a successor trustee; or
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

In addition, under the indenture, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of any debt securities of any series;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any series of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- provide for payment;
- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- pay principal of and premium and interest on any debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we provide otherwise in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indenture provides that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company, or DTC, or another depository named by us and identified in the applicable prospectus supplement with respect to that series. To the extent the debt securities of a series are issued in global form and as book-entry, a description of terms relating to any book-entry securities will be set forth in the applicable prospectus supplement.

At the option of the holder, subject to the terms of the indenture and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any

series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indenture and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will impose no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the indenture at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indenture and the debt securities will be governed by and construed in accordance with the internal laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplement and in any related free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Warrants may be offered independently or together with common stock, preferred stock or debt securities offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We have filed forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants that may be offered as exhibits to the registration statement of which this prospectus is a part. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, if any, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms relating to a series of warrants being offered, including, to the extent applicable:

- the title of such securities;
- the offering price or prices and aggregate number of warrants offered;
- the currency or currencies for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at which, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which, and the currency in which, these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- the terms of any rights to force the exercise of the warrants;

- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- a discussion of any material or special U.S. federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including:

- in the case of warrants to purchase debt securities, the right to receive payments of principal of, or interest premium, if any, or interest on, the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture; or
- in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution, or winding up, or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

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

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

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the warrants and warrant agreements, and any claim, controversy or dispute arising under or related to the warrants or warrant agreements, will be governed by and construed in accordance with the laws of the State of New York.

Enforceability of Rights by Holders of Warrants

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

LEGAL OWNERSHIP OF SECURITIES

We can issue securities in registered form or in the form of one or more global securities. We describe global securities in greater detail below. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee, depositary or warrant agent maintain for this purpose as the “holders” of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as “indirect holders” of those securities. As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

Book-Entry Holders

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depositary on behalf of other financial institutions that participate in the depositary’s book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Global securities will be registered in the name of the depositary or its participants. Consequently, for global securities, we will recognize only the depositary as the holder of the securities, and we will make all payments on the securities to the depositary. The depositary passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depositary and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a global security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depositary’s book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not legal holders, of the securities.

Street Name Holders

We may terminate a global security or issue securities that are not issued in global form. In these cases, investors may choose to hold their securities in their own names or in “street name.” Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we or any applicable trustee or depositary will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and we or any such trustee or depositary will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not legal holders, of those securities.

Legal Holders

Our obligations, as well as the obligations of any applicable trustee or third party employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with its participants or customers or by law, to pass it along to the indirect holders but does not do so. Similarly, we may want to obtain the approval of the holders to amend an indenture, to relieve us of the consequences of a default or of our

obligation to comply with a particular provision of an indenture, or for other purposes. In such an event, we would seek approval only from the holders, and not the indirect holders, of the securities. Whether and how the legal holders contact the indirect holders is up to the legal holders.

Special Considerations for Indirect Holders

If you hold securities through a bank, broker or other financial institution, either in book-entry form because the securities are represented by one or more global securities or in street name, you should check with your own institution to find out:

- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holders' consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;
- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are in book-entry form, how the depositary's rules and procedures will affect these matters.

Global Securities

A global security is a security that represents one or any other number of individual securities held by a depositary. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we issue to, deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depositary. Unless we specify otherwise in the applicable prospectus supplement, all securities issued in book-entry form will be deposited with, or on behalf of, Depository Trust Company, New York, New York, known as DTC, and registered in the name of Cede & Co., the nominee of DTC. A global security may not be transferred to or registered in the name of anyone other than the depositary, its nominee or a successor depositary, unless special termination situations arise. We describe those situations below under "— Special Situations When a Global Security Will Be Terminated." As a result of these arrangements, the depositary, or its nominee, will be the sole registered owner and legal holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depositary or with another institution that does. Thus, an investor whose security is represented by a global security will not be a legal holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement for a particular security indicates that the security will be issued as a global security, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

Special Considerations for Global Securities

As an indirect holder, an investor's rights relating to a global security will be governed by the account rules of the investor's financial institution and of the depositary, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a holder of securities and instead deal only with the depositary that holds the global security.

If securities are issued only as global securities, an investor should be aware of the following:

- an investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe below;

- an investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as we describe above;
- an investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form;
- an investor may not be able to pledge his or her interest in the global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;
- the depositary's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in the global security;
- we and any applicable trustee have no responsibility for any aspect of the depositary's actions or for its records of ownership interests in the global security, nor will we or any applicable trustee supervise the depositary in any way;
- the depositary may, and we understand that DTC will, require that those who purchase and sell interests in the global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well; and
- financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in the global security, may also have their own policies affecting payments, notices and other matters relating to the securities.

There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations When a Global Security Will Be Terminated

In a few special situations described below, a global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own names, so that they will be direct holders. We have described the rights of holders and street name investors above.

A global security will terminate when the following special situations occur:

- if the depositary notifies us that it is unwilling, unable or no longer qualified to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;
- if we notify any applicable trustee that we wish to terminate that global security; or
- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The applicable prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the prospectus supplement. When a global security terminates, the depositary, and neither we nor any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

PLAN OF DISTRIBUTION

We may sell the securities covered hereby from time to time pursuant to underwritten public offerings, direct sales to the public, negotiated transactions, block trades or a combination of these methods. A distribution of these securities offered by this prospectus may also be effected through the issuance of derivative securities, including without limitation, warrants. We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers, we may also sell the securities to or through underwriters or dealers, through agents, directly to one or more purchasers, or through a combination of any of these methods of sale. We may distribute securities from time to time in one or more transactions:

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

We may also sell equity securities covered by this registration statement in an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act. Such offering may be made into an existing trading market for such securities in transactions at other than a fixed price, either:

- on or through the facilities of the New York Stock Exchange or any other securities exchange or quotation or trading service on which such securities may be listed, quoted, or traded at the time of sale; and/or
- to or through a market maker other than on the New York Stock Exchange or such other securities exchanges or quotation or trading services.

Such “at-the-market offerings,” if any, may be conducted by underwriters acting as principal or agent.

A prospectus supplement or supplements (and any related free writing prospectus that we may authorize to be provided to you) will describe the terms of the offering of the securities, including, to the extent applicable:

- the terms of the offering;
- the name or names of any underwriters, dealers or agents, if any;
- the name or names of any managing underwriter or underwriters, if any;
- the amounts of securities underwritten or purchased by each of them;
- the purchase price of the securities or other consideration therefor and the proceeds, if any, we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts, concessions, commissions, and other items constituting agents’ or underwriters’ compensation;
- any delayed delivery arrangements;
- any public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement. Dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and compensation received by them on resale of the securities may be deemed to be underwriting discounts. If such dealers or agents were deemed to be underwriters, they may be subject to statutory liabilities under the Securities Act.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at varying prices

determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the applicable prospectus supplement, other than securities covered by any option to purchase additional securities. If a dealer is used in the sale of securities, we or an underwriter will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. To the extent required, we will set forth in the prospectus supplement the name of the dealer and the terms of the transaction. Any public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may change from time to time. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement that names the underwriter the nature of any such relationship.

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

We may authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe in the prospectus supplement the conditions to these contracts and the commissions we must pay for solicitation of these contracts.

We may provide agents, underwriters, and dealers with indemnification against civil liabilities related to this offering, including liabilities under the Securities Act, or contribution with respect to payments that the agents, underwriters, or dealers may make with respect to these liabilities. Agents, underwriters, and dealers, or their affiliates, may engage in transactions with, or perform services for, us in the ordinary course of business.

Unless the applicable prospectus supplement states otherwise, all securities we offer, other than common stock, will be new issues of securities with no established trading market. Any agents or underwriters may make a market in these securities but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities. There is currently no market for any of the offered securities, other than our common stock which is listed on the New York Stock Exchange. We have no current plans for listing of the preferred stock, debt securities or warrants on any securities exchange or quotation system; any such listing with respect to any particular preferred stock, debt securities or warrants will be described in the applicable prospectus supplement or other offering materials, as the case may be.

Any agents and underwriter may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Rule 103 of Regulation M under the Exchange Act. Overallotment 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 stabilizing or 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. These transactions may be effected on any exchange or over-the-counter market or otherwise.

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

bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

In compliance with guidelines of the Financial Industry Regulatory Authority, or FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate amount of the securities offered pursuant to this prospectus and the applicable prospectus supplement.

LEGAL MATTERS

Cooley LLP will pass upon the validity of the securities offered by this prospectus, and any supplement thereto, unless otherwise indicated in the applicable prospectus supplement. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement. As of the date of this prospectus, partners of Cooley LLP and GC&H Investments, LLC, an entity comprising partners and associates of Cooley LLP, beneficially own 57,569 shares of common stock.

EXPERTS

The financial statements incorporated by reference in this prospectus have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the report of such firm, given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. In addition, we maintain a website that contains information about us at www.altoneuroscience.com. The information found on, or otherwise accessible through our website is not incorporated by reference into, and does not form a part of, this prospectus or any accompanying prospectus supplement or any other document or report we file or furnish with the SEC.

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, while information that we file later with the SEC will automatically update and supersede the information in 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. 001-41944):

- [our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on March 21, 2024](#);
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2024, June 30, 2024, and September 30, 2024, filed with the SEC on [May 14, 2024](#), [August 13, 2024](#), and [November 12, 2024](#), respectively;
- our Current Reports on Form 8-K filed with the SEC on [February 6, 2024](#), [March 11, 2024](#), [May 21, 2024](#), [July 29, 2024](#), [October 22, 2024](#), and [January 16, 2025](#) (each to the extent the information in such reports is filed and not furnished); and
- the description of our common stock contained in our registration statement on [Form 8-A, filed with the SEC on January 30, 2024](#), as updated by [Exhibit 4.4](#) of our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on March 21, 2024, 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 after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus, which will become a part of this prospectus from the date that such documents are filed with the SEC. 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:

Alto Neuroscience, Inc.
Attn: Corporate Secretary
650 Castro Street, Suite 450
Mountain View, CA 94041
(650) 200-0412



3,776,436 Shares of Common Stock

Joint Book-Running Managers

BofA Securities

Stifel

William Blair

Baird

Co-Managers

Jones

H.C. Wainwright & Co.

Prospectus Supplement dated July 13, 2026
