
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

**FORM S-3
REGISTRATION STATEMENT**
*Under
The Securities Act of 1933*

ALX ONCOLOGY HOLDINGS INC.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

85-0642577
(I.R.S. Employer
Identification Number)

**323 Allerton Avenue
South San Francisco, CA 94080
650-466-7125**

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

**Jason Lettmann
Chief Executive Officer
ALX Oncology Holdings Inc.
323 Allerton Avenue
South San Francisco, CA 94080
650-466-7125**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**Kenneth A. Clark
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Christina L. Poulsen
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650 Page Mill Road
Palo Alto, California 94304
650-493-9300**

From time to time after the effective date of this Registration Statement.
(Approximate date of commencement of proposed sale to the public)

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective on filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This registration statement contains two prospectuses:

- a base prospectus, which covers the offering, issuance and sale by the Company of up to \$364,118,243 of the Company's common stock, preferred stock, warrants to purchase the Company's common stock or preferred stock, purchase contracts and/or units consisting of some or all of these securities; and
- a sales agreement prospectus covering the offering, issuance and sale by us of up to a maximum aggregate offering price of \$119,116,995 of the Company's common stock that may be issued and sold under a sales agreement Sales Agreement dated December 17, 2021, as amended on August 25, 2023, with Cantor Fitzgerald & Co., or Cantor Fitzgerald, and UBS Securities LLC, or, together with Cantor Fitzgerald, the sales agents.

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be specified in a prospectus supplement to the base prospectus. The sales agreement prospectus immediately follows the base prospectus. The specific terms of the securities to be issued and sold under the sales agreement with the sales agents are specified in the sales agreement prospectus that immediately follows the base prospectus.

The \$119,116,995 of common stock that may be offered, issued and sold under the sales agreement prospectus is included in the \$364,118,243 of securities that may be offered, issued and sold by us under the base prospectus. Upon termination of the sales agreement with the sales agents, any portion of the \$119,116,995 included in the sales agreement prospectus supplement that is not sold pursuant to the sales agreement will be available for sale in other offerings pursuant to the base prospectus and a corresponding prospectus supplement, and if no additional shares are sold under the sales agreement, the full \$119,116,995 of securities may be sold in other offerings pursuant to the base prospectus and a corresponding prospectus supplement.

SUBJECT TO COMPLETION, DATED MARCH 6, 2025

PROSPECTUS

ALX Oncology Holdings, Inc.



Up to \$364,118,243

Common Stock
Preferred Stock
Warrants
Purchase Contracts
Units

We may issue securities from time to time in one or more offerings, in amounts, at prices and on terms determined at the time of offering. This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide the specific terms of these securities in supplements to this prospectus, which will also describe the specific manner in which these securities will be offered and may also supplement, update or amend information contained in this prospectus. You should read this prospectus and any applicable prospectus supplement before you invest. The aggregate offering price of the securities we sell pursuant to this prospectus will not exceed \$364,118,243.

The securities may be sold directly to you, through agents or through underwriters and dealers. If agents, underwriters or dealers are used to sell the securities, we will name them and describe their compensation in a prospectus supplement. The price to the public of those securities and the net proceeds we expect to receive from that sale will also be set forth in a prospectus supplement.

Our common stock is listed on the Nasdaq Global Select Market under the symbol "ALXO." Each prospectus supplement will indicate whether the securities offered thereby will be listed on any securities exchange.

Investing in our securities involves risks. Please carefully read the information under the headings "[Risk Factors](#)" beginning on page 2 of this prospectus and "Item 1A—Risk Factors" of our most recent report on Form 10-K or 10-Q that is incorporated by reference in this prospectus before you invest in our securities.

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

The date of this prospectus is _____, 2025.

The information in this prospectus is not complete and may be changed. The securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission (the “SEC”) using a “shelf” registration process. By using a shelf registration statement, we may sell any combination of securities from time to time and in one or more offerings as described in this prospectus. Each time that we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering and, to the extent appropriate, any updates to the information about us contained in this prospectus. 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 may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the headings “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

We have not authorized anyone to provide you with any information or to make any representations other than those contained, or incorporated by reference, in this prospectus, any applicable prospectus supplement or 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. We will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, any prospectus supplement, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus and the documents incorporated herein by reference, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading “Risk Factors” contained or incorporated by reference in this prospectus, the applicable prospectus supplement and any related free writing prospectus and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

When we refer to “ALX Oncology Holdings,” “we,” “our,” “us” and the “Company” in this prospectus, we mean ALX Oncology Holdings Inc., unless the context indicates otherwise or unless otherwise specified. When we refer to “you,” we mean the holders of the applicable series of securities.

THE COMPANY

We are a clinical-stage immuno-oncology company focused on helping patients fight cancer by developing therapies that block the CD47 immune checkpoint and bridge the innate and adaptive immune system. Our lead product candidate, the CD47 blocker evorpaccept, is currently in multiple Phase 1 and 2 clinical trials. Cancer cells leverage CD47, a cell surface protein, as a “don’t eat me” signal to evade macrophage phagocytosis or as a “don’t activate T-cells” signal that prevents activation of T-cells by dendritic cells. We are developing evorpaccept to be a next-generation checkpoint inhibitor designed to have a high affinity for CD47 and to avoid the limitations caused by hematologic toxicities inherent in other CD47 blocking approaches.

Evorpaccept is a next-generation CD47 blocking therapeutic that we believe has significantly enhanced properties compared to competing CD47 blocking approaches. Evorpaccept is a fusion protein that combines a high-affinity CD47 binding domain with a proprietary inactivated Fc domain. The CD47 binding domain of evorpaccept is an affinity enhanced extracellular domain of SIRP α , a protein that is the natural receptor to CD47 found on myeloid cells. We have engineered the Fc domain of evorpaccept so that it does not provide a pro-phagocytic signal while still maintaining an antibody-like half-life for the molecule. We believe our inactive Fc approach improves tolerability when compared to other CD47 blocking approaches that have an Fc domain that engages activating receptors on macrophages, causing phagocytosis and death of healthy cells in addition to cancer cells.

Evorpaccept’s design has several additional advantages that we believe will make it broadly applicable to treating a number of oncology indications. Due to the inactive Fc, evorpaccept is specifically designed for use in combination with other anti-cancer agents that provide a positive immune-stimulating signal. We believe evorpaccept has a favorable tolerability profile that may enable higher dosing levels and greater combination potential with other leading anti-cancer agents.

We are focused on evorpaccept development with the standard-of-care agents, revolving around these two cell types: macrophages and dendritic cells. We initially pursued, and continue to pursue, development of evorpaccept based on two well-validated mechanisms of action involving SIRP alpha expression on macrophages and dendritic cells.

We are also advancing our novel EGFR-directed antibody-drug conjugate, or ADC, candidate ALX2004, into clinical-stage development. ALX 2004 is designed to optimize ADC-based mechanisms of anti-tumor activity and has demonstrated potent anti-tumor activity in multiple clinically relevant xenograft models.

Our office is located at 323 Allerton Avenue, South San Francisco, CA 94080. Our telephone number is 650-466-7125. Our website address is <https://www.alxononcology.com>. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus and should not be considered to be part of this prospectus.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before making a decision to invest in our securities, in addition to carefully considering the other information contained in this prospectus, in any accompanying prospectus supplement and incorporated by reference herein or therein, you should carefully consider the risks described under the caption “Risk Factors” contained in the applicable prospectus supplement, and any related free writing prospectus, and the risks discussed under the caption “Risk Factors” contained in our most recent Annual Report on Form 10-K and our most recent Quarterly Report on Form 10-Q, as well as any amendments thereto, 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 free writing prospectus that we may authorize for use in connection with a specific offering. See “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, each prospectus supplement and the information incorporated by reference in this prospectus and each prospectus supplement contain certain statements that constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. The words “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” “could,” “would,” “project,” “plan,” “potentially,” “likely,” and similar expressions and variations thereof are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements. Those statements appear in this prospectus, any accompanying prospectus supplement and the documents incorporated herein and therein by reference, particularly in the sections titled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and include statements regarding the intent, belief or current expectations of our management that are subject to known and unknown risks, uncertainties and assumptions. You are cautioned that any such forward-looking statements are not guarantees of future performance and involve risks and uncertainties, and that actual results may differ materially from those projected in the forward-looking statements as a result of various factors.

Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely upon forward-looking statements as predictions of future events. The events and circumstances reflected in the forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, including the securities laws of the United States and the rules and regulations of the SEC, we do not plan to publicly update or revise any forward-looking statements contained herein after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and although 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 a thorough 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.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of the securities as set forth in the applicable prospectus supplement. We will retain broad discretion over the use of the net proceeds to us from the sale of our securities under this prospectus. Pending these uses, we may invest the net proceeds of this offering in short and intermediate-term investment grade instruments, certificates of deposit or guaranteed obligations of the U.S. government in accordance with our investment policy.

DESCRIPTION OF SECURITIES

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

- shares of common stock, par value \$0.001 per share, of the Company;
- shares of preferred stock, par value \$0.001 per share, of the Company;
- warrants to purchase shares of our common stock or preferred stock or other securities from the Company;
- purchase contracts; and
- units representing two or more of the foregoing securities.

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We will set forth in the applicable prospectus supplement and/or free writing prospectus a description of any warrants, purchase contracts or units issued by us that may be offered or sold pursuant to this prospectus. The terms of the offering of securities, the initial offering price and the net proceeds to us will be contained in the prospectus supplement, and other offering material, relating to such offer.

DESCRIPTION OF CAPITAL STOCK

The description of our capital stock is incorporated by reference to Exhibit 4.3 to our Annual Report on Form 10-K for the fiscal year ended 2024, filed with the SEC on March 6, 2025.

DESCRIPTION OF WARRANTS

We may offer warrants to purchase common stock or preferred stock. We may offer warrants separately or together with one or more additional warrants, common stock, preferred stock, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. If we issue warrants as part of a unit, the applicable prospectus supplement will specify whether those warrants may be separated from the other securities in the unit prior to the expiration date of the warrants. The applicable prospectus supplement will also describe the following terms of any warrants:

- the specific designation and aggregate number of, and the offering price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants are to be sold separately or with other securities as parts of units;
- whether the warrants will be issued in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- the designation and terms of any equity securities purchasable upon exercise of the warrants;
- the designation, aggregate principal amount, currency and terms of any debt securities that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the common stock or preferred stock, with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which any warrants issued as part of a unit and the related common stock, or preferred stock will be separately transferable;
- the number of shares of common stock or preferred stock purchasable upon exercise of a warrant and the price at which those shares may be purchased;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the antidilution provisions, and other provisions for changes to or adjustment in the exercise price, of the warrants, if any;
- any redemption or call provisions; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange or exercise of the warrants.

DESCRIPTION OF PURCHASE CONTRACTS

The following description summarizes the general features of the purchase contracts that we may offer under this prospectus. Although the features we have summarized below will generally apply to any future purchase contracts we may offer under this prospectus, we will describe the particular terms of any purchase contracts that we may offer in more detail in the applicable prospectus supplement. The specific terms of any purchase contracts may differ from the description provided below as a result of negotiations with third parties in connection with the issuance of those purchase contracts, as well as for other reasons. Because the terms of any purchase contracts we offer under a prospectus supplement may differ from the terms we describe below, you should rely solely on information in the applicable prospectus supplement if that summary is different from the summary in this prospectus.

We will incorporate by reference into the registration statement of which this prospectus is a part the form of any purchase contract that we may offer under this prospectus before the sale of the related purchase contract. We urge you to read any applicable prospectus supplement related to specific purchase contracts being offered, as well as the complete instruments that contain the terms of the securities that are subject to those purchase contracts. Certain of those instruments, or forms of those instruments, have been filed as exhibits to the registration statement of which this prospectus is a part, and supplements to those instruments or forms may be incorporated by reference into the registration statement of which this prospectus is a part, from reports we file with the SEC.

We may offer purchase contracts, including contracts obligating holders to purchase from us, and for us to sell to holders, a specific or variable number of our securities at a future date or dates. Alternatively, the purchase contracts may obligate us to purchase from holders, and obligate holders to sell to us, a specific or varying number of our securities.

If we offer any purchase contracts, certain terms of that series of purchase contracts will be described in the applicable prospectus supplement, including, without limitation, the following:

- the price of the securities or other property subject to the purchase contracts (which may be determined by reference to a specific formula described in the purchase contracts);
- whether the purchase contracts are issued separately, or as a part of units each consisting of a purchase contract and one or more of our other securities, including U.S. Treasury securities, securing the holder's obligations under the purchase contract;
- any requirement for us to make periodic payments to holders or vice versa, and whether the payments are unsecured or pre-funded;
- any provisions relating to any security provided for the purchase contracts;
- whether the purchase contracts obligate the holder or us to purchase or sell, or both purchase and sell, the securities subject to purchase under the purchase contract, and the nature and amount of each of those securities, or the method of determining those amounts;
- whether the purchase contracts are to be prepaid or not;
- whether the purchase contracts are to be settled by delivery, or by reference or linkage to the value, performance or level of the securities subject to purchase under the purchase contract;
- any acceleration, cancellation, termination or other provisions relating to the settlement of the purchase contracts;
- a discussion of certain U.S. federal income tax considerations applicable to the purchase contracts;
- whether the purchase contracts will be issued in fully registered or global form; and
- any other terms of the purchase contracts and any securities subject to such purchase contracts.

DESCRIPTION OF UNITS

We may issue units comprising two or more securities described in this prospectus in any combination. For example, we might issue units consisting of a combination of common stock and warrants to purchase preferred stock. The following description sets forth certain general terms and provisions of the units that we may offer pursuant to this prospectus. The particular terms of the units and the extent, if any, to which the general terms and provisions may apply to the units so offered will be described in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the unit will have the rights and obligations of a holder of each included security. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date. A copy of the forms of the unit agreement and the unit certificate relating to any particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the unit agreement and the related unit certificate, see the section of this prospectus captioned "Where You Can Find More Information."

The prospectus supplement relating to any particular issuance of units will describe the terms of those units, including, to the extent applicable, the following:

- the designation and terms of the units and the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

PLAN OF DISTRIBUTION

We may sell securities:

- through underwriters;
- through dealers;
- through agents;
- directly to purchasers; or
- through a combination of any of these methods of sale.

We may directly solicit offers to purchase securities or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

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

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

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

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

- the name of the agent or any underwriters;
- the public offering or purchase price;
- any discounts and commissions to be allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are utilized in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

If a dealer is utilized in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

Agents, underwriters, dealers and other persons may be entitled under agreements that they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act.

Certain agents, underwriters and dealers, and their associates and affiliates may be customers of, have borrowing relationships with, engage in other transactions with, and/or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may over-allot in connection with the offering, creating a short position for their own accounts. In addition, to cover over-allotments or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in one business day, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than one scheduled business day after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

LEGAL MATTERS

Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California, will pass upon certain legal matters relating to the issuance and sale of the securities offered hereby on behalf of ALX Oncology Holdings Inc. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements of ALX Oncology Holdings Inc. as of December 31, 2024 and 2023, and for each of the years in the three-year period ended December 31, 2024, have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

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>. We also maintain a website at www.alxoncology.com where these materials are available. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus and is not incorporated by reference herein, and the inclusion of our website address in this prospectus is an inactive textual reference only. This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of any other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or under cover of a Current Report on Form 8-K and incorporated in this prospectus by reference. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus modifies or replaces that statement.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2024, filed with the SEC on March 6, 2025;
- the information specifically incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2024 for our definitive proxy statement relating to our 2025 annual meeting of stockholders, to be filed with the SEC;
- our Current Reports on Form 8-K, which were filed with the SEC on [January 17, 2025](#), [January 22, 2025](#) and [March 5, 2025](#); and
- the description of our common stock set forth in our registration statement on [Form 8-A](#), filed with the SEC on July 13, 2020, including any amendments thereto or reports filed for the purposes of updating this description.

Any documents we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, as well as subsequent to the effectiveness of the registration statement and prior to the termination of the offering of our securities to which this prospectus relates, will automatically be deemed to be incorporated by reference into this prospectus and to be part hereof from the date of filing those documents. We are not, however, incorporating by reference any documents or portions thereof that are not deemed "filed" with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K. 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.

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

ALX Oncology Holdings Inc.
Attn: Investor Relations
323 Allerton Avenue
South San Francisco, CA 94080
650-466-7125

The information accessible through any website referred to in this prospectus or any document incorporated herein is not, and should not be deemed to be, a part of this prospectus.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MARCH 6, 2025

PROSPECTUS SUPPLEMENT

ALX[™]
ONCOLOGY
Up to \$119,116,995
Common Stock

We previously entered into a sales agreement, or Sales Agreement dated December 17, 2021, as amended on August 25, 2023, with Cantor Fitzgerald & Co., or Cantor Fitzgerald, and UBS Securities LLC, or UBS, relating to the sale of shares of our common stock, par value \$0.001 per share, offered by this prospectus supplement and the accompanying prospectus. As of the date of this prospectus supplement, we have issued 2,404,855 shares of our common stock for gross proceeds of \$30,883,005 under the Sale Agreement and prospectus supplement issued pursuant to our registration statement on Form S-3 filed with the Securities and Exchange Commission on March 25, 2022, as amended on May 13, 2022 (File No. 333-263863), or the Prior Registration Statement. In accordance with the terms of the Sales Agreement, under this prospectus supplement we may offer and sell shares of our common stock having an aggregate offering price of up to \$119,116,995, from time to time through or to Cantor Fitzgerald and UBS, acting as our agent or principal.

Our common stock is listed on The Nasdaq Global Select Market under the symbol “ALXO.” The last reported sale price of our common stock on March 3, 2025 was \$1.03 per share.

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus will be made in sales deemed to be an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act of 1933, as amended, or the Securities Act. Cantor Fitzgerald and UBS are not required to sell any specific amount of securities, but will act as our sales agents using commercially reasonable efforts consistent with their normal trading and sales practices, on mutually agreed terms between Cantor Fitzgerald, UBS and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The compensation to Cantor Fitzgerald and UBS for sales of common stock sold pursuant to the Sales Agreement will be an amount up to 3.0% of the gross proceeds of any shares of common stock sold under the Sales Agreement. In connection with the sale of the common stock on our behalf, Cantor Fitzgerald and UBS will each be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of Cantor Fitzgerald and UBS will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Cantor Fitzgerald and UBS with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Investing in our common stock involves risk. Please read the information contained in and incorporated by reference under the heading “[Risk Factors](#)” beginning on page S-7 of this prospectus supplement, and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus supplement and accompanying prospectus.

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

Cantor

UBS Investment Bank

The date of this prospectus supplement is _____, 2025.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the Securities and Exchange Commission, which we refer to as the “SEC,” utilizing the “shelf” registration process. Under this shelf registration process, we may from time to time offer shares of our common stock having an aggregate offering price of up to \$119,116,995 under this prospectus supplement at prices and on terms to be determined by market conditions at the time of each such offering.

We are providing information to you about this offering of our common stock in two parts. The first part is this prospectus supplement, which provides you with specific information regarding the terms of this offering and our common stock, and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus. The second part is the accompanying prospectus, which provides more general information, some of which does not apply to this offering of our common stock.

Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus supplement and all of the information incorporated by reference herein, as well as the additional information described under the headings “Where You Can Find More Information” and “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, on the one hand, and the information contained in any document incorporated by reference in this prospectus supplement that was filed with the SEC before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreement, 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 Cantor Fitzgerald and UBS have not, authorized anyone to provide you with any information other than that contained or incorporated by reference in this prospectus supplement and in the accompanying prospectus or in any related free writing prospectus that we authorize for use in connection with this offering and 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. If anyone provides you with different or inconsistent information, you should not rely on it. You should assume that the information appearing in this prospectus supplement, the documents incorporated by reference and the accompanying prospectus or free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

This prospectus supplement does not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful.

Unless the context otherwise indicates, references in this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein to “ALX Oncology Holdings,” “we,” “our” and “us” refer, collectively, to ALX Oncology Holdings Inc., a Delaware corporation, and its consolidated subsidiaries.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein, contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical facts contained in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein, including statements regarding our future results of operations and financial position, business strategy, product candidates, planned preclinical studies and clinical trials, results of clinical trials, research and development costs, regulatory approvals, timing and likelihood of success, as well as plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that are in some cases beyond our control and 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.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “would,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “believe,” “estimate,” “predict,” “potential,” or “continue” or the negative of these terms or other similar expressions. Forward-looking statements contained in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein include, but are not limited to, statements about:

- our financial performance;
- the sufficiency of our existing cash to fund our future operating expenses and capital expenditure requirements;
- the accuracy of our estimates regarding expenses, future revenue, capital requirements, and needs for additional financing;
- our plans relating to commercializing our product candidates, if approved, including the geographic areas of focus and our ability to grow a sales team;
- the implementation of our strategic plans for our business and product candidates;
- our ability to obtain and maintain regulatory approval of our product candidates and the timing or likelihood of regulatory filings and approvals, including our expectation to seek special designations, such as orphan drug designation, for our product candidates for various diseases;
- our reliance on third parties to conduct preclinical research activities, and for the manufacture of our product candidates;
- the beneficial characteristics, mechanisms of action, safety profile, efficacy and therapeutic effects of our product candidates;
- the progress and focus of our current and future clinical trials, and the reporting of data from those trials;
- our ability to advance product candidates into and successfully complete clinical trials;
- the ability of our clinical trials, including collaborations and investigator sponsored trials, to demonstrate the safety and efficacy of our product candidates, and other positive results;
- the success of competing therapies that are or may become available;
- developments relating to our competitors and our industry, including competing product candidates and therapies;
- our plans relating to the further development and manufacturing of our product candidates, including additional indications that we may pursue;
- existing regulations and regulatory developments in the United States and other jurisdictions;

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- our potential and ability to successfully manufacture and supply our product candidates for clinical trials and for commercial use, if approved;
- our continued reliance on third parties to conduct clinical trials of our product candidates, and for the manufacture of our product candidates;
- our plans and ability to obtain or protect intellectual property rights, including extensions of existing patent terms where available;
- the scope of protection we are able to establish and maintain for intellectual property rights, including our technology platform and product candidates;
- our ability to retain the continued service of our key personnel, the impacts of any executive officer changes, and to identify, hire, and then retain additional qualified personnel;
- the impact of outbreaks or public health crises, including the COVID-19 pandemic, interest rate changes, bank failures or instability in the financial services sector, or geopolitical risks on our business;
- our plans for and prospects of our acquisitions and other business development activities, and our ability to successfully capitalize on these opportunities;
- changes in our financial and internal controls;
- our anticipated use of our existing cash and cash equivalents, short-term and long-term investments, and the funds available from our term loan and investments; and
- our expectations related to the use of proceeds from this offering.

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. These forward-looking statements speak only as of the date of this prospectus supplement and are subject to a number of risks, uncertainties and assumptions described in the section titled “Risk Factors” and elsewhere in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein until after we distribute this prospectus supplement, whether as a result of any new information, future events or otherwise.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus supplement, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely upon these statements.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere in this prospectus supplement, the accompanying prospectus and in the documents we incorporate by reference. This summary does not contain all of the information you should consider before making an investment decision. 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, the “Risk Factors” section of our most recent Annual Report on Form 10-K, as may be updated by our subsequent Quarterly Reports on Form 10-Q, along with our consolidated financial statements and notes to those consolidated financial statements and the other information incorporated by reference in this prospectus supplement and the accompanying prospectus and in our filings with the SEC.

ALX Oncology Holdings Inc.

We are a clinical-stage immuno-oncology company focused on helping patients fight cancer by developing therapies that block the CD47 immune checkpoint and bridge the innate and adaptive immune system. Our lead product candidate, the CD47 blocker evorpacept, is currently in multiple Phase 1 and 2 clinical trials. Cancer cells leverage CD47, a cell surface protein, as a “don’t eat me” signal to evade macrophage phagocytosis or as a “don’t activate T-cells” signal that prevents activation of T-cells by dendritic cells. We are developing evorpacept to be a next-generation checkpoint inhibitor designed to have a high affinity for CD47 and to avoid the limitations caused by hematologic toxicities inherent in other CD47 blocking approaches.

Evorpacept is a next-generation CD47 blocking therapeutic that we believe has significantly enhanced properties compared to competing CD47 blocking approaches. Evorpacept is a fusion protein that combines a high-affinity CD47 binding domain with a proprietary inactivated Fc domain. The CD47 binding domain of evorpacept is an affinity enhanced extracellular domain of SIRP α , a protein that is the natural receptor to CD47 found on myeloid cells. We have engineered the Fc domain of evorpacept so that it does not provide a pro-phagocytic signal while still maintaining an antibody-like half-life for the molecule. We believe our inactive Fc approach improves tolerability when compared to other CD47 blocking approaches that have an Fc domain that engages activating receptors on macrophages, causing phagocytosis and death of healthy cells in addition to cancer cells.

Evorpacept’s design has several additional advantages that we believe will make it broadly applicable to treating a number of oncology indications. Due to the inactive Fc, evorpacept is specifically designed for use in combination with other anti-cancer agents that provide a positive immune-stimulating signal. We believe evorpacept has a favorable tolerability profile that may enable higher dosing levels and greater combination potential with other leading anti-cancer agents.

We are focused on evorpacept development with the standard-of-care agents, revolving around these two cell types: macrophages and dendritic cells. We initially pursued, and continue to pursue, development of evorpacept based on two well-validated mechanisms of action involving SIRP alpha expression on macrophages and dendritic cells.

We are also advancing our novel EGFR-directed antibody-drug conjugate, or ADC, candidate ALX2004, into clinical-stage development. ALX 2004 is designed to optimize ADC-based mechanisms of anti-tumor activity and has demonstrated potent anti-tumor activity in multiple clinically relevant xenograft models.

Company Information

The Company was formed as a Delaware corporation on April 1, 2020 for the purpose of completing the Company’s initial public offering of its common stock and related transactions in order to carry on the business of ALX Oncology Limited. Subsequently, ALX Oncology Limited became a wholly-owned subsidiary of the Company as a result of the internal reorganization. Our office is located at 323 Allerton Avenue, South San Francisco, California 94080. Our telephone number is 650-466-7125. Our website address is <https://www.alxoncology.com>. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus supplement and should not be considered to be part of this prospectus supplement or the accompanying prospectus. We have included our website address in this prospectus supplement and the accompanying prospectus solely as an inactive textual reference.

THE OFFERING

Common stock offered by us	Shares of our common stock having an aggregate offering price of up to \$119,116,995.
Shares of common stock outstanding before this offering	53,052,912 shares
Common stock to be outstanding after this offering	Up to 115,647,567 shares, assuming the sale of \$119,116,995 of shares of our common stock at a price of \$1.03 per share, which was the closing price of our common stock on the Nasdaq Global Select Market on March 3, 2025. The actual number of shares issued will vary depending on the sales price under this offering. In addition, as there is no minimum offering amount required as a condition to close this offering, the actual number of shares that may be sold is not determinable at this time.
Plan of Distribution	“At the market offering” that may be made from time to time through, at our option, either of our sales agents, Cantor Fitzgerald and UBS. See “Plan of Distribution” beginning on page S-10 of this prospectus supplement.
Use of Proceeds	We currently intend to use the net proceeds from this offering, together with our existing cash, cash equivalents and investments, for the clinical and other developmental work associated with advancing evorpaccept (formerly known as ALX 148) and our other research and development efforts, and for working capital and other general corporate purposes.
Risk Factors	You should read the “Risk Factors” section of this prospectus supplement, as well as those risk factors that are incorporated by reference in this prospectus supplement and the accompanying prospectus, for a discussion of factors to consider carefully before deciding to purchase shares of our common stock.
Nasdaq Global Select Market symbol	ALXO

The number of shares of our common stock to be outstanding after this offering is based on 53,052,912 shares of our common stock outstanding as of December 31, 2024.

The number of shares of our common stock to be outstanding after this offering excludes:

- 10,528,751 shares of our common stock issuable upon the exercise of options outstanding as of December 31, 2024, at a weighted-average exercise price of \$10.04 per share;
- 898,755 shares of our common stock issuable pursuant to restricted stock units outstanding as of December 31, 2024;
- 357,500 shares of our common stock issuable pursuant to performance-based restricted stock units outstanding as of December 31, 2024;

- 2,757,500 shares of our common stock issuable upon the exercise of options granted after December 31, 2024, at a weighted-average exercise price of \$1.62 per share;
- 642,557 shares of our common stock reserved for issuance pursuant to future awards under our Amended and Restated 2020 Equity Incentive Plan, or the 2020 Plan, as of December 31, 2024, plus any future increases in the number of shares of common stock reserved for issuance under our 2020 Plan pursuant to provisions thereof that automatically increase the share reserve under the plan each year; and
- 974,251 shares of our common stock reserved for future issuance under our 2020 Employee Stock Purchase Plan, or the ESPP, plus any future increases in the number of shares of common stock reserved for issuance under the ESPP pursuant to provisions thereof that automatically increase the share reserve under the plan each year.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before making a decision to invest in our securities, in addition to carefully considering the other information contained in this prospectus supplement, in the accompanying prospectus and incorporated by reference herein or therein, you should carefully consider the risks described under the caption “Risk Factors” contained in the accompanying prospectus, and any related free writing prospectus, and the risks discussed under the caption “Risk Factors” contained in our most recent Annual Report on Form 10-K and in our most recent Quarterly Reports on Form 10-Q, as well as any amendments thereto, which are incorporated by reference into this prospectus supplement in their entirety, together with other information in this prospectus supplement, the documents incorporated by reference, and any free writing prospectus that we may authorize for use in connection with a specific offering. See “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

Risks Related to this Offering

Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. As of December 31, 2024, we had 53,052,912 shares of our common stock outstanding. If our stockholders sell, or the market perceives that our stockholders intend to sell, substantial amount of our common stock in the public market, the market price of our common stock could decline significantly.

Shares issued upon the exercise of stock options outstanding under our equity incentive plans or pursuant to future awards granted under those plans will become available for sale in the public market to the extent permitted by the provisions of applicable vesting schedules and Rule 144 and Rule 701 under the Securities Act.

Moreover, certain holders of our common stock have rights, subject to conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. Registration of these shares under the Securities Act would result in the shares becoming freely tradeable in the public market, subject to the restrictions of Rule 144 in the case of our affiliates. If any of these additional shares are sold, or if it is perceived that they will be sold, in the public market, the market price of our common stock could decline.

Our management team will have broad discretion to use the net proceeds from this offering and its investment of these proceeds may not yield a favorable return.

Our management team will have broad discretion in the application of the net proceeds from this offering and could spend or invest the proceeds in ways with which our stockholders disagree. Accordingly, investors will need to rely on our management team’s judgment with respect to the use of these proceeds. We intend to use the proceeds from this offering in the manner described in the section titled “Use of Proceeds.” The failure by management to apply these funds effectively could negatively affect our ability to operate and grow our business. We cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering. In addition, the amount, allocation and timing of our actual expenditures will depend upon numerous factors, including any milestone payments received from any future strategic partnerships and royalties on sales of any future approved product. Accordingly, we will have broad discretion in using these proceeds. Until the net proceeds are used, they may be placed in investments that do not produce significant income or that may lose.

We do not anticipate paying cash dividends and, accordingly, stockholders must rely on share appreciation for any return on their investment.

We have never paid any dividends on our capital stock. We currently intend to retain our future earnings, if any, to fund the development and growth of our businesses and do not anticipate that we will declare or pay any

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cash dividends on our capital stock in the foreseeable future. See the section titled “Dividend Policy.” In addition, the Loan Agreement restricts our ability to pay dividends or make other distributions. As a result, capital appreciation, if any, of our common stock will be your sole source of gain on your investment for the foreseeable future. Investors seeking cash dividends should not invest in our common stock.

Raising additional capital may cause dilution to our stockholders, including purchasers of our common stock in this offering, restrict our operations or require us to relinquish substantial rights.

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 new securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available, may involve fixed payment obligations or agreements that include covenants limiting or restricting our ability to take specific actions such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through partnerships, collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, product candidates or future revenue streams, or grant licenses on terms that are not favorable to us. We cannot assure you that we will be able to obtain additional funding if and when necessary. If we are unable to obtain adequate financing on a timely basis, we could be required to delay, scale back or eliminate one or more of our clinical or discovery programs or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

The actual number of shares we will issue and gross proceeds resulting from those sales, at any one time or in total, is uncertain.

Subject to certain limitations in the Sales Agreement and compliance with applicable law, we have the discretion to deliver a placement notice to Cantor Fitzgerald and UBS at any time throughout the term of the Sales Agreement. The number of shares that are sold by Cantor Fitzgerald and UBS after delivering a placement notice will fluctuate based on the market price of our common stock during the sales period and limits we set with Cantor Fitzgerald and UBS in any instruction to sell shares, and the demand for our common stock during the sales period. Because the price per share of each share sold will fluctuate based on the market price of our common stock during the sales period, it is not possible at this stage to predict the number of shares or the gross proceeds to be raised in connection with those sales, if any, that will be ultimately issued.

The common stock offered hereby will be sold in “at the market offerings,” and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors may experience a decline in the value of their shares as a result of share sales made at prices lower than the prices they paid. Investors may experience a decline in the value of their common shares and dilution as a result of sales made at prices lower than the prices they paid.

USE OF PROCEEDS

We may issue and sell shares of our common stock having an aggregate offering price of up to \$119,116,995 from time to time. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time.

We currently intend to use the net proceeds, together with our existing cash, cash equivalents and investments, for the clinical and other developmental work associated with advancing evorpacept (formerly known as ALX 148) and our other research and development efforts, and for working capital and other general corporate purposes.

Pending the specific use of net proceeds as described in this prospectus supplement, we intend to invest the net proceeds to us from this offering in short and intermediate-term investment grade instruments, certificates of deposit or guaranteed obligations of the U.S. government in accordance with our investment policy.

Our expected use of proceeds from this offering represents our current intentions based on our present plans and business condition. As of the date of this prospectus supplement, we cannot predict with certainty all of the particular uses for the proceeds to be received upon the completion of this offering or the actual amounts that we will spend on the uses set forth above. We may also use a portion of the proceeds to in-license, acquire or invest in additional businesses, technologies, products or assets. Although we have no specific agreements, commitments or understandings with respect to any in-licensing activity or acquisition, we evaluate these opportunities and engage in related discussions with other companies from time to time.

The net proceeds from this offering, together with our existing cash, cash equivalents and investments, may not be sufficient for us to fund our clinical programs, and we may need to raise additional capital to achieve our business objectives.

The amount and timing of our actual expenditures will depend on numerous factors, including the results of our research and development efforts, the timing and outcome of any ongoing or future preclinical studies and clinical trials the timing and outcome of regulatory submissions and any unforeseen cash needs. As a result, our management will have broad discretion over the use of the proceeds from this offering.

DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. We do not intend to pay cash dividends to holders of our common stock in the foreseeable future.

PLAN OF DISTRIBUTION

We previously entered into the Sales Agreement with Cantor Fitzgerald and UBS, each, a sales agent, under which we may offer and sell from time to time shares of our common stock through the sales agents. The Sales Agreement dated December 17, 2021, as amended on August 25, 2023, was previously filed as an exhibit to our Quarterly Report on Form 10-Q filed on November 13, 2023 and is herein incorporated by reference. As of the date of this prospectus supplement, we have issued 2,404,855 shares of our common stock for gross proceeds of \$30,883,005 under the Sales Agreement and prospectus supplement issued pursuant to the Prior Registration Statement. This prospectus supplement covers the offer and sale of the remaining \$119,116,995 under the Sales Agreement. This summary of the material provisions of the Sales Agreement does not purport to be a complete statement of its terms and conditions.

We will submit orders to only one sales agent relating to the sale of shares of our common stock under the Sales Agreement on any given day. Upon delivery of a placement notice to a sales agent and subject to the terms and conditions of the Sales Agreement, such sales agent may offer and sell shares of our common stock by any method permitted by law deemed to be an “at the market offering,” as defined in Rule 415(a)(4) promulgated under the Securities Act. We may instruct such sales agent not to sell common stock if the sales cannot be effected at or above the price designated by us from time to time. We or the sales agents may suspend the offering of common stock upon notice and subject to other conditions.

We will pay the sales agents’ commissions, in cash, for their services in acting as agent in the sale of our common stock. A sales agent is entitled to compensation at a commission rate of up to 3.0% of the gross sales price per share sold by such sales agent under the Sales Agreement. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse the sales agents for certain specified expenses, including the fees and disbursements of its legal counsel in an amount not to exceed \$75,000. We estimate that the total expenses for the offering, excluding compensation and reimbursements, if any, payable to Cantor Fitzgerald and UBS under the terms of the Sales Agreement, will be approximately \$0.7 million.

Settlement for sales of shares of common stock will occur on the first business day following the date on which any sales are made, or on some other date that is agreed upon by us and the applicable sales agent in connection with a particular transaction, in return for payment of the net proceeds to us. Sales of our common stock as contemplated in this prospectus supplement and the accompanying prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and the applicable sales agents may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

The sales agents will use their commercially reasonable efforts, consistent with their sales and trading practices, to solicit offers to purchase the shares of common stock under the terms and subject to the conditions set forth in the Sales Agreement. In connection with the sale of the shares of common stock on our behalf, the applicable sales agent will be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation of such sales agent will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to each sales agent against certain liabilities, including civil liabilities under the Securities Act.

The offering of shares of our common stock pursuant to the Sales Agreement will terminate upon the termination of the Sales Agreement as permitted therein.

The sales agents and their respective affiliates may in the future provide various investment banking, commercial banking and other financial services for us, our subsidiaries and our affiliates, for which services they may in the future receive customary fees. To the extent required by Regulation M, the sales agents will

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not engage in any market-making activities involving our common stock while the offering is ongoing under this prospectus supplement.

This prospectus supplement and the accompanying prospectus in electronic format may be made available on a website maintained by Cantor Fitzgerald or UBS, and each of Cantor Fitzgerald and UBS may distribute this prospectus supplement and the accompanying prospectus electronically.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California. Cantor Fitzgerald & Co. and UBS Securities LLC are being represented in connection with this offering by Cooley LLP, New York, New York.

EXPERTS

The consolidated financial statements of ALX Oncology Holdings Inc. as of December 31, 2024 and 2023, and for each of the years in the three-year period ended December 31, 2024, have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

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>. We also maintain a website at www.alxoncology.com where these materials are available. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus supplement and is not incorporated by reference herein, and the inclusion of our website address in this prospectus supplement is an inactive textual reference only.

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of any other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or under cover of a Current Report on Form 8-K and incorporated in this prospectus by reference. Statements in this prospectus supplement or the accompanying prospectus about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC's rules allow us to "incorporate by reference" information into this prospectus supplement, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus supplement, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement modifies or replaces that statement.

This prospectus supplement incorporates by reference the documents set forth below that have previously been filed with the SEC:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2024, filed with the SEC on March 6, 2025;
- the information specifically incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2024 for our definitive proxy statement relating to our 2025 annual meeting of stockholders, to be filed with the SEC;
- our Current Reports on Form 8-K, which were filed with the SEC on [January 17, 2025](#), [January 22, 2025](#) and [March 5, 2025](#); and
- the description of our common stock set forth in our registration statement on [Form 8-A](#), filed with the SEC on July 13, 2020, including any amendments thereto or reports filed for the purposes of updating this description.

Any documents we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, as well as subsequent to the effectiveness of the registration statement and prior to the termination of the offering of our securities to which this prospectus supplement relates will automatically be deemed to be incorporated by reference into this prospectus supplement and to be part hereof from the date of filing those documents. We are not, however, incorporating by reference any documents or portions thereof that are not deemed "filed" with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K. 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.

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

ALX Oncology Holdings Inc.
Attn: Investor Relations
323 Allerton Avenue
South San Francisco, California 94080
650-466-7125

The information accessible through any website referred to in this prospectus supplement or any document incorporated herein is not, and should not be deemed to be, a part of this prospectus supplement.

ALXTM
ONCOLOGY

Up to \$119,116,995

Common Stock

PROSPECTUS SUPPLEMENT

Cantor
UBS Investment Bank

, 2025

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following is an estimate (other than the SEC registration and FINRA filing fees) of the expenses (all of which are to be paid by the registrant) that we may incur in connection with the securities being registered hereby.

SEC registration fee	\$ (1)
FINRA filing fees	\$ (2)
Printing expenses	(2)
Legal fees and expenses (including Blue Sky fees)	(2)
Accounting fees and expenses	(2)
Transfer agent, trustee and warrant agent and depository fees and expenses	(2)
Miscellaneous fees and expenses	(2)
Total	<u>\$ (2)</u>

- (1) These fees comprise the registration fee for the registration of an aggregate amount of \$364,118,243 of any combination of the securities described in this prospectus to be offered by the registrant. In accordance with Rule 415(a)(6) under the Securities Act, the filing fee previously paid in connection with the securities registered in the registration statement on Form S-3 (File No. 333-263863), an aggregate amount of \$364,118,243 remain unsold, will continue to be applied to the securities registered under this Registration Statement. Please see the registration fee table contained in Exhibit 107 to this registration statement for more information.
- (2) These fees and expenses are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents.

Our certificate of incorporation contains provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by the Delaware General Corporation Law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for the following:

- any breach of their duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which they derived an improper personal benefit.

Any amendment, repeal or elimination of these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to that amendment, repeal or elimination. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

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In addition, our bylaws provide that we will indemnify our directors and officers, and may indemnify our employees, agents and any other persons, to the fullest extent permitted by the Delaware General Corporation Law. Our bylaws also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to limited exceptions.

Further, we have entered into indemnification agreements with each of our directors and executive officers that may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements require us to, among other things, indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also generally require us to advance all expenses reasonably and actually incurred by our directors and executive officers in investigating or defending any such action, suit or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

The limitation of liability and indemnification provisions in our certificate of incorporation, bylaws and indemnification agreements may discourage stockholders from bringing a lawsuit against our directors and officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against our directors and officers as required by these indemnification provisions.

We have obtained insurance policies under which, subject to the limitations of the policies, coverage is provided to our directors and officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or officer, including claims relating to public securities matters, and to us with respect to payments that may be made by us to our directors and officers pursuant to our indemnification obligations or otherwise as a matter of law.

The underwriting agreement to be filed as Exhibit 1.1 to this registration statement may provide for indemnification by the underwriters of us and our directors and officers for certain liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, the Securities Exchange Act of 1934, as amended, or the Exchange Act, or otherwise.

Item 16. Exhibits

(a) Exhibits

A list of exhibits filed with this registration statement on Form S-3 is set forth on the Exhibit Index and is incorporated herein by reference.

Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) to file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to

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Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the “Calculation of Filing Fee Tables” or “Calculation of Registration Fee” table, as applicable, in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) that, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) to remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) that, for the purpose of determining liability under the Securities Act to any purchaser:

(i) each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) that, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

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(iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(b) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporation by Reference				Filed Herewith
		Form	File Number	Exhibit Number	Filing Date	
1.1*	Form of Underwriting Agreement					
1.2	Sales Agreement, dated December 17, 2021, by and among ALX Oncology Holdings Inc., Cantor Fitzgerald & Co., and Credit Suisse Securities (USA) LLC.	8-K	001-39386	1.1	December 17, 2021	
1.2.1	Amendment No. 1 to the Sales Agreement with Cantor and Credit Suisse, dated August 25, 2023.	10-Q	001-39386	10.1	November 13, 2023	
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	8-K	001-39386	3.1	July 21, 2020	
3.2	Amended and Restated Bylaws of the Registrant.	8-K	001-39386	3.1	June 20, 2023	
4.1	Amended and Restated Investors' Rights Agreement among the Registrant and certain of its stockholders, dated April 1, 2020.	S-1	333-239490	4.1	June 26, 2020	
4.2	Specimen common stock certificate of the Registrant.	S-1	333-239490	4.2	June 26, 2020	
4.3	Description of Securities	10-K	001-39386	4.3	March 7, 2024	
4.4*	Form of Preferred Stock Certificate					
4.5*	Form of Warrant Agreement					
4.6*	Form of Purchase Contract Agreement					
4.7*	Form of Unit Agreement					
4.8*	Form of Unit					
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation				X	
23.1	Consent of KPMG LLP, Independent Registered Public Accounting Firm.				X	
23.2	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in the opinion filed as Exhibit 5.1 to this Registration Statement).				X	
24.1	Power of Attorney (included on the signature page to this Registration Statement).				X	
107.1	Filing Fee Table				X	

* To be filed by amendment or as an exhibit to a Form 8-K and incorporated by reference herein.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S 3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of South San Francisco, State of California, on March 6, 2025.

ALX ONCOLOGY HOLDINGS INC.

By: /s/ Jason Lettmann
Jason Lettmann
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Jason Lettmann and Harish Shantharam, and each of them, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities (including his capacity as a director and/or officer of ALX Oncology Holdings Inc.), to sign this registration statement on Form S-3 filed herewith and any and all amendments to this registration statement, including post-effective amendments, and registration statements filed pursuant to Rule 462 under the Securities Act, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith and about the premises, as fully for all intents and purposes as they, he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or any of them, or their, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Jason Lettmann</u> Jason Lettmann	Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	March 6, 2025
<u>/s/ Harish Shantharam</u> Harish Shantharam	Chief Financial Officer <i>(Principal Financial Officer)</i>	March 6, 2025
<u>/s/ Shelly Pinto</u> Shelly Pinto	Senior Vice President, Finance and Chief Accounting Officer <i>(Principal Accounting Officer)</i>	March 6, 2025
<u>/s/ Corey Goodman</u> Corey Goodman, Ph.D.	Chairman of the Board of Directors	March 6, 2025
<u>/s/ Rekha Hemrajani</u> Rekha Hemrajani	Director	March 6, 2025

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/s/ Barbara Klencke

Barbara Klencke, M.D.

Director

March 6, 2025

/s/ Chris Takimoto

Chris Takimoto, M.D., Ph.D., FACP

Director

March 6, 2025



Wilson Sonsini Goodrich & Rosati
Professional Corporation

650 PAGE MILL ROAD
PALO ALTO, CALIFORNIA 94304-1050

o: 650.493.9300

F: 650.493.6811

March 6, 2025

ALX ONCOLOGY HOLDINGS INC.
323 Allerton Avenue
South San Francisco, California 94080

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

At your request, we have examined the Registration Statement on Form S-3 (the "Registration Statement"), filed by ALX Oncology Holdings Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") in connection with the registration pursuant to the Securities Act of 1933, as amended (the "Act"), of the Securities (as defined below).

The Registration Statement relates to the proposed issuance and sale by the Company, from time to time, pursuant to Rule 415 under the Act, as set forth in the Registration Statement, the prospectus contained therein (the "Prospectus") and the supplements to the prospectus referred to therein (each a "Prospectus Supplement"), of up to an aggregate offering price of \$364,118,243 or the equivalent thereof, of (a) shares of the Company's common stock, \$0.001 par value per share (the "Common Stock"); (b) shares of the Company's preferred stock, \$0.001 par value per share (the "Preferred Stock"); (c) warrants to purchase Common Stock or Preferred Stock (the "Warrants"); (d) purchase contracts of the Company with respect to the securities of the Company (the "Purchase Contracts"); and (e) units consisting of two or more securities described above in any combination (the "Units") (the Common Stock, the Preferred Stock, the Warrants, the Purchase Contracts and the Units are collectively referred to herein as the "Securities").

We advise you that we have also examined the prospectus supplement to the Registration Statement in connection with the registration under the Securities Act of up to \$119,116,995 in Common Stock (the "ATM Shares") to be issued and sold by the Company. We understand that the Company has agreed to issue and sell the ATM Shares from time to time through Cantor Fitzgerald & Co. and UBS Securities LLC, as sales agents (the "Sales Agents") pursuant to a sales agreement by and among the Company and the Sales Agents, as amended (the "Sales Agreement").

The Securities are to be sold from time to time as set forth in the Registration Statement, the Prospectus contained therein and the Prospectus Supplements. The Securities are to be sold pursuant to a purchase, underwriting or similar agreement in substantially the form to be filed under a Current Report on Form 8-K.

We have examined instruments, documents, certificates and records that we have deemed relevant and necessary for the basis of our opinions hereinafter expressed. In such examination, we have assumed: (a) the authenticity of original documents and the genuineness of all signatures; (b) the conformity to the originals of all documents submitted to us as copies; (c) the truth, accuracy and completeness of the information, representations and warranties contained in the instruments, documents, certificates and records we have reviewed; (d) that the Registration Statement, and any amendments thereto (including post-effective amendments), will have become effective under the Act; (e) that a Prospectus Supplement will have been filed with the Commission describing the Securities offered thereby; (f) that the Securities will be issued and sold in compliance with applicable U.S. federal and state securities laws and in the manner stated in the Registration Statement and the applicable Prospectus Supplement; (g) that a definitive purchase, underwriting or similar agreement with respect to any Securities offered will have been duly authorized and validly executed and delivered by the Company and the other parties thereto; (h) that any Securities issuable upon conversion, exchange, redemption or exercise of any Securities being offered will be duly authorized, created and, if appropriate, reserved for issuance upon such conversion, exchange, redemption or exercise; (i) with respect to shares of Common Stock or Preferred Stock, that there will be sufficient shares of Common Stock or Preferred Stock, respectively, authorized under the Company's organizational documents that are not otherwise reserved for issuance; and (j) the legal capacity of all natural persons. As to any facts material to the opinions expressed herein that were not independently established or verified, we have relied upon oral or written statements and representations of officers and other representatives of the Company. The term "Board" means the Board of Directors of the Company or a duly constituted and acting committee thereof.

Based on such examination, we are of the opinion that:

1. With respect to the shares of Common Stock to be sold by the Company, when: (a) the Board has taken all necessary corporate action to approve the issuance and the terms of the offering of the shares of Common Stock and related matters; and (b) the shares of Common Stock have been duly delivered either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Common Stock, upon payment of the consideration therefor (not less than the par value of the Common Stock) provided for therein or (ii) upon conversion or exercise of any other Security, in accordance with the terms of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the consideration approved by the Board, then the shares of Common Stock will be validly issued, fully paid and nonassessable.

2. With respect to any particular series of shares of Preferred Stock, when: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the shares of Preferred Stock, the terms of the offering thereof, and related matters, including the adoption of a certificate of designation (a "Certificate") relating to such Preferred Stock conforming to the General Corporation Law of the State of Delaware (the "DGCL") and the filing of the Certificate with the Secretary of State of the State of Delaware; and (b) the shares of Preferred Stock have been duly delivered either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Preferred Stock, upon payment of the consideration therefor (not less than the par value of the Preferred Stock) provided for therein or (ii) upon conversion or exercise of any other Security, in accordance with the terms of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the consideration approved by the Board, then the shares of Preferred Stock will be validly issued, fully paid and nonassessable.

3. With respect to the Warrants, when: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the Warrants and related matters; and (b) the Warrants have been duly executed and delivered against payment therefor, pursuant to the applicable definitive purchase, underwriting, warrant or similar agreement, as applicable, duly authorized, executed and delivered by the Company and a warrant agent and the certificates for the Warrants have been duly executed and delivered by the Company and such warrant agent, then the Warrants will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

4. With respect to the Purchase Contracts, when: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the Purchase Contracts and related matters and (b) the agreement under which the Purchase Contracts are to be issued has been duly authorized and validly executed and delivered by the Company, then the Purchase Contracts will be valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

5. With respect to the Units, when: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the Units (including any Securities underlying the Units) and related matters; and (b) the Units (including any Securities underlying the Units) have been duly executed and delivered against payment therefor, pursuant to the applicable definitive purchase, underwriting, or similar agreement duly authorized, executed and delivered by the Company and any applicable unit or other agents, and the certificates for the Units (including any Securities underlying the Units) have been duly executed and delivered by the Company and any applicable unit or other agents, then the Units will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

6. The ATM Shares to be issued and sold by the Company have been duly authorized and, when such ATM Shares are issued and paid for in accordance with the terms of the Sales Agreement, will be validly issued, fully paid and nonassessable.

Our opinion that any document is legal, valid and binding is qualified as to:

(a) limitations imposed by bankruptcy, insolvency, reorganization, arrangement, fraudulent transfer, moratorium or other similar laws relating to or affecting the rights of creditors generally;

(b) rights to indemnification and contribution, which may be limited by applicable law or equitable principles; and

(c) the effect of general principles of equity, including without limitation concepts of materiality, reasonableness, good faith and fair dealing, and the possible unavailability of specific performance or injunctive relief, whether considered in a proceeding in equity or at law.

We express no opinion as to the laws of any other jurisdiction, other than the federal laws of the United States of America and the DGCL.

* * *

We hereby consent to the filing of this opinion as an exhibit to the above-referenced Registration Statement and to the use of our name wherever it appears in the Registration Statement, the Prospectus, any Prospectus Supplement, and in any amendment or supplement thereto. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Wilson Sonsini Goodrich & Rosati

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

Consent of Independent Registered Public Accounting Firm

We consent to the use of our report dated March 6, 2025, with respect to the consolidated financial statements of ALX Oncology Holdings Inc., incorporated herein by reference, and to the reference to our firm under the heading “Experts” in the prospectus.

/s/ KPMG LLP

San Francisco, California

March 6, 2025

CALCULATION OF FILING FEE TABLES

Form S-3
(Form Type)ALX ONCOLOGY HOLDINGS INC.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered and Carry Forward Securities

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial Effective Date	Filing Fee Previously Paid In Connection with Unsold Securities to be Carried Forw
Newly Registered Securities												
Fees to Be Paid												
Fees Previously Paid												
Carry Forward Securities												
Carry Forward Securities	Equity	Common Stock, par value \$0.001 per share	415(a)(6)	(1)(2)	(3)	(3)						
	Equity	Preferred Stock, par value \$0.001 per share	415(a)(6)	(1)(2)	(3)	(3)						
	Equity	Warrants	415(a)(6)	(1)(2)	(3)	(3)						
	Other	Purchase Contracts	415(a)(6)	(1)(2)	(3)	(3)						
	Other	Units	415(a)(6)	(1)(2)	(3)	(3)						
	Unallocated (Universal) Shelf	Unallocated (Universal) Shelf	415(a)(6)	(1)(2)	(3)	\$364,118,243 (4)	(4)	Form S-3	333-263863	May 25, 2022	\$33,754 (
	Total Offering Amounts					\$364,118,243	\$33,754					
	Total Fees Previously Paid						\$33,754					
	Total Fee Offsets						N/A					
	Net Fee Due						\$0					

- (1) There are being registered hereunder such indeterminate number of (a) shares of common stock, (b) shares of preferred stock, (c) warrants to purchase common stock or preferred stock, (f) purchase contracts, and (h) units consisting of some or all of these securities in any combination, to be sold by the registrant from time to time at unspecified prices which shall have an aggregate initial offering price not to exceed \$364,118,243. There are also being registered hereunder an indeterminate number of shares of common stock and preferred stock as shall be issuable upon conversion, exchange or exercise of any securities that provide for such issuance.
- (2) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the Securities Act), the shares being registered hereunder include such indeterminate number of shares of the registrant's securities as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (3) The proposed maximum per security and aggregate offering prices will be determined, from time to time, by the registrant in connection with the issuance by the registrant of the securities registered hereunder and is not specified as to each class of security pursuant to Instruction 2.A.iii.b. to the Calculation of Filing Fee Tables and Related Disclosure on Item 16(b) of Form S-3 under the Securities Act.
- (4) Pursuant to Rule 415(a)(6) under the Securities Act, the securities registered pursuant to this registration statement represent \$364,118,243 of unsold securities (the Unsold Securities) previously registered pursuant to a registration statement on Form S-3 (File No. 333-263863), initially filed by the registrant with the Securities and Exchange Commission on March 25, 2022 and declared effective on May 25, 2022 (the Prior Registration Statement). The Prior Registration Statement registered securities for a maximum aggregate offering price of \$450,000,000, and of that amount the registrant has previously sold securities for an aggregate offering price of \$85,881,757, leaving a balance of unsold securities with an aggregate offering price of \$364,118,243. In connection with the filing of the Prior Registration Statement, the Registrant paid a filing fee of \$33,754 associated with the offering of the Unsold Securities (based on the filing fee rate in effect at the time of the filing of the Prior Registration Statement), calculated in accordance with Rule 457(o) under the Securities Act. The filing fee associated with the offering of the Unsold Securities is hereby carried forward to be applied to the Unsold Securities registered hereunder and, as a result, no additional filing fee is due in respect of such Unsold Securities. To the extent that, after the filing date hereof and prior to the effectiveness of this registration statement, the registrant sells any Unsold Securities under the Prior Registration Statement, the registrant will identify in a pre-effective amendment to this registration statement the updated number of Unsold Securities from the Prior Registration Statement to be included in this registration statement pursuant to Rule 415(a)(6) and the updated amount of new securities to be registered on this registration statement. Pursuant to Rule 415(a)(6), the offering of securities registered under the Prior Registration Statement will be deemed terminated as of the date of effectiveness of this registration statement.