

As filed with the Securities and Exchange Commission on May 21, 2024

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

AMENDMENT NO. 1 TO
FORM S-3
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Predictive Oncology Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or jurisdiction
of incorporation or organization)

33-1007393
(I.R.S. Employer
Identification No.)

91 43rd Street, Suite 110
Pittsburgh, Pennsylvania 15201
(412) 432-1500

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

Josh Blacher
Interim Chief Financial Officer
Predictive Oncology Inc.
91 43rd Street, Suite 110
Pittsburgh, Pennsylvania 15201
(412) 432-1500

(Name, address and telephone number of agent for service)

Copy to:
Alan Seem
DLA Piper LLP (US)
3203 Hanover Street, Suite 100
Palo Alto, California 94304
(650) 833-2000

Approximate date of commencement of proposed sale to the public: From time to time on or after the effective date of this Registration Statement, as determined by market conditions and other factors.

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 upon 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, a 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. (Check one)

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 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 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 Amendment No. 1 to the Registration Statement on Form S-3 of Predictive Oncology Inc. (File No. 333-279123) (the “Registration Statement”) is being submitted to refile Exhibit 107. Predictive Oncology Inc. (the “Company”) initially filed the Registration Statement to register the offer and sale of up to \$200 million of securities and intended to carry over the unsold securities under the Company’s prior registration statement on Form S-3 (File No. 333-255582) (the “Prior Registration Statement”) pursuant to Rule 415(a)(5)(ii) of the Securities Act of 1933, as amended (the “Securities Act”). The Registration Statement was transmitted to the Securities Exchange Commission (the “SEC”) via EDGAR on May 3, 2024 but accepted by the SEC with a filing date of May 6, 2024, and therefore was not filed within the time frame required under Rule 415 of the Securities Act. Accordingly, this Amendment No. 1 is being filed to amend the filing fee table contained in Exhibit 107 and update Item 14 of Part II of the Registration Statement to provide that the unsold securities and associated filing fees are not being carried over from the Prior Registration Statement pursuant to Rule 415, and instead, the filing fees paid under the Prior Registration Statement are being used to offset the filing fees due under the Registration Statement.

This Amendment No. 1 is also being filed to supplement and revise the “Incorporation of Certain Documents by Reference” sections of the prospectuses included in the Registration Statement to include additional Current Reports on Form 8-K and a Quarterly Report on Form 10-Q. The remainder of the prospectuses are unchanged except for updating certain share price information.

This registration statement contains two prospectuses:

- a base prospectus, which covers the offering, issuance and sale by us of up to \$200,000,000 of our common stock, preferred stock, debt securities, warrants to purchase our common stock, preferred stock or debt securities, subscription rights to purchase our common stock, preferred stock or debt securities 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 \$3,696,000 of our common stock that may be issued and sold under a sales agreement with H.C. Wainwright & Co., LLC (“Wainwright”).

The securities being registered hereby may be convertible into or exchangeable or exercisable for other securities of any identified class. In addition to the securities that may be issued directly under this registration statement, there is being registered hereunder such indeterminate aggregate number or amount, as the case may be, of the securities of each identified class as may from time to time be issued upon the conversion, exchange, settlement or exercise of other securities offered hereby. Separate consideration may or may not be received for securities that are issued upon the conversion or exercise of, or in exchange for, other securities or that are issued in units.

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 \$3,696,000 of common stock that may be offered, issued and sold under the sales agreement prospectus is included in the \$200,000,000 of securities that may be offered, issued and sold by us under the base prospectus. Upon termination of the sales agreement with Wainwright, any portion of the \$3,696,000 included in the sales agreement prospectus 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 shares are sold under the Sales Agreement, the full \$200,000,000 of securities may be sold in other offerings by us pursuant to the base prospectus and a corresponding prospectus supplement.

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 is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS, SUBJECT TO COMPLETION - DATED May 21, 2024



PREDICTIVE ONCOLOGY INC.

\$200,000,000

Debt Securities

Common Stock

Preferred Stock

Warrants to Purchase Common Stock or Preferred Stock

Units

By this prospectus and an accompanying prospectus supplement, we may from time to time offer and sell, in one or more offerings, up to \$200,000,000 in any combination of debt securities, common stock, preferred stock, warrants, units, or subscription rights.

We will provide you with more specific terms of the securities offered by us in one or more supplements to this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest.

We may offer these securities from time to time in amounts, at prices and on other terms to be determined at the time of offering. We may offer and sell these securities to or through underwriters, dealers or agents, or directly to investors, on a continuous or delayed basis.

The supplements to this prospectus will provide the specific terms of the plan of distribution. The price to the public of the securities we offer and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock is listed on the Nasdaq Capital Market under the symbol "POAI". On May 20, 2024, the closing price of our common stock as reported by the Nasdaq Capital Market was \$1.69 per share.

The aggregate market value of shares of our common stock held by non-affiliates, as of the date hereof pursuant to General Instruction of I.B.6 of Form S-3 is \$11,088,966, which was calculated based on 3,988,837 shares of our common stock outstanding held by non-affiliates and at a price of \$2.78 per share, the closing price of our common stock on March 27, 2024. During the 12-calendar month period that ends on, and includes, the date of this prospectus, we have not offered or sold any securities pursuant to General Instruction I.B.6. of Form S-3.

An investment in our securities may be considered speculative and involves a high degree of risk, including the risk of a substantial loss of your investment. See "Risk Factors" on page 10 for more information on the risks you should consider before buying our securities. An investment in our securities is not suitable for all investors.

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 , 2024



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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement filed with the Securities and Exchange Commission (the “SEC”) using a “shelf” registration process. Under this shelf process, we may sell the securities described in this prospectus in one or more offerings. This prospectus provides you with a general description of the securities that may be offered. Each time we offer securities for sale, we will provide a prospectus supplement that contains specific information about the terms of that offering. Any prospectus supplement may also add or update information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described below under “Where You Can Find More Information” and “Information Incorporated by Reference.”

The registration statement that contains this prospectus (including the exhibits thereto) contains additional important information about us and the securities we may offer under this prospectus. Specifically, we have filed certain documents that establish the terms of the securities offered by this prospectus as exhibits to the registration statement. We will file certain other documents that establish the terms of the securities offered by this prospectus as exhibits to reports we file with the SEC. You may obtain copies of the registration statement and the other reports and documents referenced herein as described below under the heading “Where You Can Find More Information.”

You should rely only on the information contained or incorporated by reference in this prospectus and in any prospectus supplement. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making offers to sell or solicitations to buy the securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should not assume that the information in this prospectus or any prospectus supplement, as well as the information we file or previously filed with the SEC that we incorporate by reference in this prospectus or any prospectus supplement, is accurate as of any date other than the date of such document. Our business, financial condition, results of operations and prospects may have changed since those dates.

In this prospectus, unless the context otherwise requires, references to “Predictive Oncology,” “we,” “us,” “our” or the “Company” refer to Predictive Oncology Inc.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements made in this prospectus are “forward-looking statements” that indicate certain risks and uncertainties related to the Company, many of which are beyond the Company’s control. The Company’s actual results could differ materially and adversely from those anticipated in such forward-looking statements as a result of certain factors, including those set forth below and elsewhere in this report. Important factors that may cause actual results to differ from projections include:

- We may not be able to continue operating without additional financing;
- Continued negative operating cash flows;
- Our capital needs to accomplish our goals, including any further financing, which may be highly dilutive and may include onerous terms;
- Risks related to recent and future acquisitions, including risks related to the benefits and costs of acquisition;
- Risks related to our partnerships with other companies, including the need to negotiate the definitive agreements; possible failure to realize anticipated benefits of these partnerships; and costs of providing funding to our partner companies, which may never be repaid or provide anticipated returns;
- Risks related to the initiation, formation, or success of our collaboration arrangements, commercialization activities and product sales levels by our collaboration partners and future payments that may come due to us under these arrangements;

- Risk that we will be unable to protect our intellectual property or claims that we are infringing on others' intellectual property;
- The impact of competition;
- Acquisition and maintenance of any necessary regulatory clearances applicable to applications of our technology;
- Inability to attract or retain qualified senior management personnel, including sales and marketing personnel;
- Risk that we never become profitable if our products and services are not accepted by potential customers;
- Possible impact of government regulation and scrutiny;
- Unexpected costs and operating deficits, and lower than expected sales and revenues, if any;
- Adverse results of any legal proceedings;
- The volatility of our operating results and financial condition,
- Management of growth;
- Risk that our business and operations could be materially and adversely affected by disruptions caused by economic and geopolitical uncertainties as well as epidemics or pandemics; and
- Other specific risks that may be alluded to in this report.

In some cases, you can identify forward-looking statements by terms such as “may”, “will”, “should”, “could”, “would”, “expects”, “plans”, “anticipates”, “believes”, “estimates”, “projects”, “predicts”, “potential” and similar expressions intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

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

THE COMPANY

This summary contains basic information about us. You should read the entire prospectus carefully, especially the risks of investing in our securities discussed under “Risk Factors.” Some of the statements contained in this prospectus supplement, including statements under this summary and “Risk Factors” are forward-looking statements and may involve a number of risks and uncertainties. We note that our actual results and future events may differ significantly based upon a number of factors. You should not put undue reliance on the forward-looking statements in this document, which speak only as of the date on the cover of this prospectus. References to “we,” “our,” “us,” the “Company,” or “Predictive Oncology” refer to Predictive Oncology Inc., a Delaware corporation.

About Predictive Oncology

We are a knowledge and science-driven company that applies artificial intelligence (“AI”) to support the discovery and development of optimal cancer therapies, which can ultimately lead to more effective treatments and improved patient outcomes. We use AI and a proprietary biobank of 150,000+ tumor samples, categorized by tumor type, to provide actionable insights about drug compounds to improve the drug discovery process and increase the probability of drug compound success. We offer a suite of solutions for oncology drug development from early discovery to clinical trials.

Our mission is to change the landscape of oncology drug discovery and enable the development of more effective therapies for the treatment of cancer. By harnessing the power of machine learning and scientific rigor, we believe that we can improve the probability of success of advancing pharmaceutical and biological drug candidates with a higher degree of confidence.

We operate in three business areas. In our first area, we provide optimized, high-confidence drug-response predictions through the application of AI using our proprietary biobank of tumor samples to enable a more informed selection of drug/tumor combinations and increase the probability of success during development. We also create and develop tumor-specific 3D cell culture models mimicking the physiological environment of human tissue enabling better-informed decision-making during development. In our second business area, we provide services and research using a proprietary self-contained and automated system that conducts high-throughput, self-interaction chromatography screens using additives and excipients commonly included in protein formulations resulting in soluble and physically stable formulations of biologics. Our third business area produces the United States Food and Drug Administration (“FDA”)-cleared STREAMWAY® System and associated products for automated medical fluid waste management and patient-to-drain medical fluid disposal. As of January 1, 2023, we changed our reportable segments to align with these business areas.

We have three reportable segments that have been delineated by location and business area:

- *Pittsburgh segment:* provides services that include the application of AI using its proprietary biobank of 150,000+ tumor samples. Pittsburgh also creates proprietary 3D culture models used in drug development.
- *Birmingham segment:* provides contract services and research focused on solubility improvements, stability studies, and protein production.
- *Eagan segment:* produces the FDA-cleared STREAMWAY System and associated products for automated medical fluid waste management and patient-to-drain medical fluid disposal.

Our Industry

Drug Discovery and Development Solutions

The growing demand for the improvement in the discovery and development process of novel drug therapies is driving the demand for AI-empowered solutions. Growing partnerships and cooperation are expected to fuel global market for AI in drug development. The adoption of AI solutions in the drug development process increases efficiency, reduces cycle time, and increases the productivity and accuracy of the risky and long process. Due to these advantages, the importance of AI in drug discovery and development is expected to drive the global market. AI-powered drug discovery is an emerging approach that considers individual variability in multi-omics, including genes, disease and environment to develop effective therapies. This approach predicts more accurately which treatment, dose, and therapeutic regimen could provide the best possible clinical outcome. Biopharmaceutical companies, contract research organizations, academia, and other stakeholders began integrating AI-based solutions in their drug development processes to enhance outcomes and curb costs.

We believe we are uniquely positioned with our PEDAL platform to provide early insights that clients can use to prioritize drugs for development and identify patient-centric indications. In addition, the PEDAL platform can be used to re-purpose previously failed drug compounds. We aim to leverage the PEDAL platform for our biopharma clients and help them prioritize their oncology portfolio. The PEDAL platform supports a biopharma client’s decision on the drug molecules with a higher likelihood of clinical success. With PEDAL, we look to improve/enhance the way that the biopharma industry carries out the development of oncology drugs. We believe our platform provides unique financial- and time-saving advantages for pharmaceutical companies.

We believe the passage of the FDA Modernization Act 2.0 will increase the use of non-animal methods to study the mechanisms of diseases and to test the effectiveness of new drugs. The FDA Modernization Act 2.0 allows for alternatives to animal-testing requirements for the development of drugs and allows drug manufacturers to opt out of animal testing while utilizing other testing methods to develop drugs, such as cell-based assays, organ-on-a-chip technology, computer models, and other human biology-based test methods. We expect the market to continue to grow due to a shift towards more efficient, accurate and predictive models.

Infectious and Biohazardous Waste Management

There has long been recognition of the collective potential for ill effects to healthcare workers from exposure to infectious/biohazardous materials. Federal and state regulatory agencies have issued mandatory guidelines for the control of such materials, and particularly bloodborne pathogens. OSHA's Bloodborne Pathogens Standard (29 CFR 1910.1030) requires employers to adopt engineering and work practice controls that would eliminate or minimize employee exposure to hazards associated with bloodborne pathogens. In 2001, in response to the Needlestick Safety and Prevention Act, OSHA revised the Bloodborne Pathogens Standard. The revised standard clarifies and emphasizes the need for employers to select safer needle devices and to involve employees in identifying and choosing these devices. The revised standard also calls for the use of "automated controls" as it pertains to the minimization of healthcare exposure to bloodborne pathogens.

Most surgical procedures produce potentially infectious materials that must be disposed of with the lowest possible risk of cross-contamination to healthcare workers. Current standards of care allow for these fluids to be retained in canisters and located in the operating room where they can be monitored throughout the surgical procedure. Once the procedure is complete these canisters and their contents are disposed using a variety of methods, all of which include manual handling and result in a heightened risk to healthcare workers for exposure to their contents. Canisters are the most prevalent means of collecting and disposing of infectious fluids in hospitals today. Traditional, non-powered canisters and related suction and fluid disposable products are exempt and do not require FDA clearance.

We expect the hospital surgery market to continue to increase due to population growth, the aging of the population, and expansion of surgical procedures to new areas (for example, use of the endoscope) which requires more medical fluid management and new medical technology.

Corporate Information

Our principal executive offices are located at 91 43rd Street, Suite 110 Pittsburgh, Pennsylvania and our telephone number is (412) 432-1500.

We were originally incorporated in Minnesota on April 23, 2002, and reincorporated in Delaware in 2013. We changed our name from Skyline Medical Inc. to Precision Therapeutics Inc. on February 1, 2018 and to Predictive Oncology Inc. on June 13, 2019. Additional information about us is available on our website at predictive-oncology.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus.

For a description of our business, financial condition, results of operations and other important information regarding us, we refer you to our filings with the SEC incorporated by reference in this prospectus supplement. For instructions on how to find copies of these documents, see "Where You Can Find More Information."

RISK FACTORS

An investment in our securities involves a number of risks. Before deciding to invest in our securities, you should carefully consider the risks discussed under the sections captioned “Risk Factors” contained in our Annual Report on Form 10-K for the year ended December 31, 2023, which report is incorporated by reference in this prospectus, the information and documents incorporated by reference herein, and in any prospectus supplement or free writing prospectus that we have authorized for use in connection with an offering. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. The risks described in the documents referenced above are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business.

USE OF PROCEEDS

Unless otherwise indicated in the prospectus supplement, we intend to use the net proceeds from the sale of securities offered by the prospectus for general corporate purposes and working capital requirements. We may also use a portion of the net proceeds to:

- make capital expenditures,
- license or acquire intellectual property or technologies to incorporate into our products, or
- fund possible investments in and acquisitions of complementary businesses, partnerships and minority investments.

We have not determined the amounts we plan to spend on the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds of the offerings. We have no current plans, commitments or agreements with respect to any acquisition as of the date of this prospectus.

DILUTION

With the exception of debt securities we may sell with no equity conversion feature and, therefore, no effect on dilution, we will set forth in a prospectus supplement the following information regarding any material dilution of the equity interests of investors purchasing securities sold by Predictive Oncology in an offering under this prospectus:

- the net tangible book value per share of our equity securities before and after the offering;
- the amount of the increase in such net tangible book value per share attributable to the cash payments made by purchases in the offering; and
- the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

DESCRIPTION OF CAPITAL STOCK

The following description summarizes the material terms of our capital stock. This summary is, however, subject to the provisions of our certificate of incorporation and bylaws. For greater detail about our capital stock, please refer to our certificate of incorporation and bylaws.

General

Our authorized capital stock consists of 200,000,000 shares of Common Stock, and 20,000,000 shares of preferred stock, \$0.01 par value per share (“Preferred Stock”). Out of the Preferred Stock, as of May 20, 2024, 2,300,000 shares have been designated Series B Convertible Preferred Stock, of which 79,246 shares were outstanding.

The outstanding shares of our Common Stock and Preferred Stock are fully paid and nonassessable.

The Series B Convertible Preferred Stock is convertible into 16 shares of Common Stock, subject to a 4.99% beneficial ownership blocker.

Our Board of Directors is authorized, subject to any limitations prescribed by law, to provide for the issuance of the shares of Preferred Stock in series and, by filing a certificate pursuant to the applicable law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each such series and any qualifications, limitations or restrictions thereon. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the outstanding shares of Common Stock without a vote of the holders of the Preferred Stock, or of any series thereof, unless a vote of any such holders is required pursuant to the certificate or certificates establishing the series of Preferred Stock.

Common Stock

As of May 20, 2024, we had 4,102,004 shares of common stock outstanding held by approximately 156 stockholders of record.

Voting Rights. The holders of our Common Stock are entitled to one vote for each outstanding share of Common Stock owned by that shareholder on every matter properly submitted to the shareholders for their vote. Shareholders are not entitled to vote cumulatively for the election of directors.

Dividend Rights. Subject to the dividend rights of the holders of any outstanding series of preferred stock, holders of our Common Stock are entitled to receive ratably such dividends and other distributions of cash or any other right or property as may be declared by our Board of Directors out of our assets or funds legally available for such dividends or distributions.

Liquidation Rights. In the event of any voluntary or involuntary liquidation, dissolution or winding up of our affairs, holders of our Common Stock would be entitled to share ratably in our assets that are legally available for distribution to shareholders after payment of liabilities and after the satisfaction of any liquidation preference owed to the holders of any Preferred Stock.

Conversion, Redemption and Preemptive Rights. Holders of our Common Stock have no conversion, redemption, preemptive, subscription or similar rights.

Anti-Takeover Provisions

Bylaws. Certain provisions of our Bylaws could have anti-takeover effects. These provisions are intended to enhance the likelihood of continuity and stability in the composition of our corporate policies formulated by our Board of Directors. In addition, these provisions also are intended to ensure that our Board of Directors will have sufficient time to act in what our Board of Directors believes to be in the best interests of our Company and our shareholders. Nevertheless, these provisions could delay or frustrate the removal of incumbent directors or the assumption of control of us by the holder of a large block of Common Stock, and could also discourage or make more difficult a merger, tender offer, or proxy contest, even if such event would be favorable to the interest of our shareholders. These provisions are summarized below.

Advance Notice Provisions for Raising Business or Nominating Directors. Sections 2.09 and 2.10 of our Bylaws contain advance-notice provisions relating to the ability of shareholders to raise business at a shareholder meeting and make nominations for directors to serve on our Board of Directors. These advance-notice provisions generally require shareholders to raise business within a specified period of time prior to a meeting in order for the business to be properly brought before the meeting.

Number of Directors and Vacancies. Our Bylaws provide that the exact number of directors shall be determined from time to time solely by resolution adopted by the affirmative vote of a majority of the entire Board of Directors. The Board of Directors is divided into three classes, as nearly equal in number as possible, designated: Class I, Class II and Class III (each, a “Class”). In the case of any increase or decrease, from time to time, in the number of directors, the number of directors in each class shall be apportioned as nearly equal as possible. Except as otherwise provided in the Certificate of Incorporation, each director serves for a term ending on the date of the third annual meeting of the Company’s stockholders following the annual meeting at which such director was elected; provided, that the term of each director shall continue until the election and qualification of a successor and be subject to such director’s earlier death, resignation or removal. Vacancies on the Board of Directors resulting from death, resignation, removal or otherwise and newly created directorships resulting from any increase in the number of directors may be filled solely by a majority of the directors then in office (although less than a quorum) or by the sole remaining director.

Delaware Law. We are subject to Section 203 of the Delaware General Corporation Law. This provision generally prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date the stockholder became an interested stockholder, unless:

- prior to such date, the board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned by persons who are directors and also officers and by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to such date, the business combination is approved by the board of directors and authorized at an annual meeting or special meeting of stockholders and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Section 203 defines a business combination to include:

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

In general, Section 203 defines an “interested stockholder” as any entity or person beneficially owning 15% or more of the outstanding voting stock of a corporation, or an affiliate or associate of the corporation and was the owner of 15% or more of the outstanding voting stock of a corporation at any time within three years prior to the time of determination of interested stockholder status; and any entity or person affiliated with or controlling or controlled by such entity or person.

These statutory provisions could delay or frustrate the removal of incumbent directors or a change in control of our company. They could also discourage, impede, or prevent a merger, tender offer, or proxy contest, even if such event would be favorable to the interests of stockholders. In addition, note that while Delaware law permits companies to opt out of its business combination statute, our Certificate of Incorporation does not include this opt-out provision.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Pacific Stock Transfer.

Listing

The shares of our common stock are listed on The Nasdaq Capital Market under the symbol "POAI." On May 20, 2024, the last reported sale price per share for our common stock as reported by The Nasdaq Capital Market was \$1.69.

Preferred Stock

Our Board of Directors has the authority, without action by our stockholders, to designate and issue up to 20,000,000 shares of preferred stock in one or more series or classes and to designate the rights, preferences and privileges of each series or class, which may be greater than the rights of our common stock. The Board's authority to issue preferred stock without stockholder approval could make it more difficult for a third party to acquire control of our company, and could discourage such attempt.

Series B Convertible Preferred Stock Outstanding

In connection with an offering of units that closed on August 31, 2015, we issued as part of the units 1,895,010 shares of Series B Convertible Preferred Stock pursuant to a Certificate of Designation approved by our Board.

The Series B Convertible Preferred Stock separated from the other securities included within the units as of February 29, 2016 and are currently convertible. As of May 20, 2024, 79,246 shares of Series B Convertible Preferred Stock remain outstanding.

The Series B Convertible Preferred Stock is convertible into sixteen (16) shares of common stock. The number of shares of common stock issuable upon conversion of the Series B Convertible Preferred Stock is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock.

Upon the occurrence of a "Fundamental Transaction", each share of Series B Convertible Preferred Stock shall be automatically converted into one share of common stock of the Company, subject to the beneficial ownership limitation discussed in the next paragraph. A "Fundamental Transaction" means that (i) the Company shall, directly or indirectly, in one or more related transactions, (1) consolidate or merge with or into (whether or not the Company is the surviving corporation) any other person unless the shareholders of the Company immediately prior to such consolidation or merger continue to hold more than 50% of the outstanding shares of voting stock after such consolidation or merger, or (2) sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of the properties and assets of the Company and its subsidiaries, taken as a whole, to any other person, or (3) allow any other person to make a purchase, tender or exchange offer that is accepted by the holders of more than 50% of the outstanding shares of voting stock of the Company (not including any shares of voting stock of the Company held by the person or persons making or party to, or associated or affiliated with the persons making or party to, such purchase, tender or exchange offer), or (4) consummate a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with any other person whereby such other person acquires more than 50% of the outstanding shares of voting stock of the Company (not including any shares of voting stock of the Company held by the other person or other persons making or party to, or associated or affiliated with the other persons making or party to, such stock or share purchase agreement or other business combination), or (ii) any "person" or "group" (as these terms are used for purposes of Sections 13(d) and 14(d) of the Exchange Act and the rules and regulations promulgated thereunder), other than a Permitted Holder, is or shall become the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of 50% of the aggregate ordinary voting power represented by issued and outstanding voting stock of the Company. The term Permitted Holders means Josh Kornberg, Atlantic Partners Alliance and SOK Partners, LLC and each of their respective affiliates.

The Series B Convertible Preferred Stock is not convertible by the holder of such preferred stock to the extent (and only to the extent) that the holder or any of its affiliates would beneficially own in excess of 4.99% of the common stock of the Company. For purposes of the limitation described in this paragraph, beneficial ownership and all determinations and calculations are determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder.

The Series B Convertible Preferred Stock has no voting rights, except that the holders of shares of a majority of the Series B Convertible Preferred Stock will be required to effect or validate any amendment, alteration or repeal of any of the provisions of the Certificate of Designation that materially adversely affects the powers, preferences or special rights of the Series B Convertible Preferred Stock, whether by merger or consolidation or otherwise; provided, however, that (i) in the event of an amendment to terms of the Series B Convertible Preferred Stock, including by merger or consolidation, so long as the Series B Convertible Preferred Stock remains outstanding with the terms thereof materially unchanged, or the Series B Convertible Preferred Stock is converted into, preference securities of the surviving entity, or its ultimate parent, with such powers, preferences or special rights that are, in the good faith determination of the Board of the Company, taken as a whole, not materially less favorable to the holders of the Series B Convertible Preferred Stock than the powers, preferences or special rights of the Series B Convertible Preferred Stock in effect prior to such amendment or the occurrence of such event, taken as a whole, then such amendment or the occurrence of such event will not be deemed to materially and adversely affect such powers, preferences or special rights of the Series B Convertible Preferred Stock and (ii) the authorization, establishment or issuance by the Corporation of any other series of preferred stock with powers, preferences or special rights that are senior to or on a parity with the Series B Preferred Stock, including, but not limited to, powers, preferences or special rights with respect to dividends, distributions or liquidation preferences, shall not be deemed to materially and adversely affect the power, preferences or special rights of the Series B Preferred Stock, and in the case of either clause (i) or (ii), the holders shall not have any voting rights with respect thereto, and provided further that, (iii) prior to the date that is the six month anniversary of the Issuance Date, no amendment, alteration or repeal of any of the provisions of this Certificate of Designation shall be made that affects the powers, preferences or special rights of the Series B Preferred Stock in any manner, whether by merger or consolidation or otherwise. An amendment to the terms of the Series B Convertible Preferred Stock only requires the vote of the holders of Series B Convertible Preferred Stock.

With respect to payment of dividends and distribution of assets upon liquidation or dissolution or winding up of the Company, the Series B Convertible Preferred Stock shall rank equal to the common stock of the Company. No sinking fund has been established for the retirement or redemption of the Series B Convertible Preferred Stock. As such, the Series B Convertible Preferred Stock is not subject to any restriction on the repurchase or redemption of shares by the Company due to an arrearage in the payment of dividends or sinking fund installments.

The Series B Convertible Preferred Stock also has no liquidation rights or preemption rights, and there are no special classifications of our Board related to the Series B Convertible Preferred Stock.

The shares of common stock issuable upon conversion of the Series B Convertible Preferred Stock have been duly authorized, validly issued and fully paid and are non-assessable. We have authorized and reserved at least that number of shares of common stock equal to the number of shares of common stock issuable upon conversion of all outstanding Series B Convertible Preferred Stock.

THE HOLDER OF SERIES B CONVERTIBLE PREFERRED STOCK DO NOT POSSESS ANY RIGHTS AS A STOCKHOLDER UNDER THE SHARES OF SERIES B CONVERTIBLE PREFERRED STOCK UNTIL THE HOLDER CONVERTS THE SHARES OF SERIES B CONVERTIBLE PREFERRED STOCK.

There is no established public trading market for our Series B Convertible Preferred Stock, and we do not expect a market to develop. We do not intend to apply to list Series B Convertible Preferred Stock on any securities exchange. Without an active market, the liquidity of the Series B Convertible Preferred Stock will be limited.

One or More New Series of Preferred Stock

The following description of preferred stock and the description of the terms of any particular series of preferred stock that we choose to issue hereunder and that will be set forth in the related prospectus supplement are not complete. These descriptions are qualified in their entirety by reference to the certificate of designation relating to that series. The rights, preferences, privileges and restrictions of the preferred stock of each series will be fixed by the certificate of designation relating to that series.

Our board of directors has the authority, without stockholder approval, subject to limitations prescribed by law, to provide for the issuance of the shares of preferred stock in one or more series, and by filing a certificate pursuant to the applicable law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each series and the qualifications, limitations or restrictions, including, but not limited to, the following:

- the number of shares constituting that series;
- dividend rights and rates;
- voting rights;
- conversion terms;
- rights and terms of redemption (including sinking fund provisions); and
- rights of the series in the event of liquidation, dissolution or winding up.

All shares of preferred stock offered hereby will, when issued, be fully paid and nonassessable and will not have any preemptive or similar rights. Our board of directors could authorize the issuance of shares of preferred stock with terms and conditions that could have the effect of discouraging a takeover or other transaction that might involve a premium price for holders of the shares or which holders might believe to be in their best interests.

We will set forth in a prospectus supplement relating to the series of preferred stock being offered the following items:

- the title and stated value of the preferred stock;
- the number of shares of the preferred stock offered, the liquidation preference per share and the offering price of the preferred stock;
- the dividend rate(s), period(s) and/or payment date(s) or method(s) of calculation applicable to the preferred stock;
- whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends on the preferred stock will accumulate;
- the procedures for any auction and remarketing, if any, for the preferred stock;
- the provisions for a sinking fund, if any, for the preferred stock;
- the provision for redemption, if applicable, of the preferred stock;
- any listing of the preferred stock on any securities exchange;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into common stock, including the conversion price (or manner of calculation) and conversion period;
- voting rights, if any, of the preferred stock;

- a discussion of any material and/or special United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon the liquidation, dissolution or winding up of our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the class or series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

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

Certificate of Incorporation and Bylaws

Our current Certificate of Incorporation authorizes the issuance of “blank check” preferred stock that could be issued by our Board of Directors to defend against a takeover attempt. See “Preferred Stock” above.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of our common stock or preferred stock, or a combination thereof. Warrants may be issued independently or together with our debt securities, preferred stock or common stock and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent will act solely as our agent in connection with the warrants. The warrant agent will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants. This description is a summary of the certain provisions of the units, and does not purport to be complete and is subject to, and qualified in its entirety by reference to, the provisions of the warrant agreement that will be filed with the SEC in connection with an offering of the warrants. The particular terms of any units offered by us will be described in the applicable prospectus supplement. To the extent the terms of the warrants described in the prospectus supplement differ from the terms set forth in this summary, the terms described in the prospectus supplement will supersede the terms described below.

The prospectus supplement relating to a particular series of warrants to purchase our common stock or preferred stock will describe the terms of the warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of warrants;
- the designation and terms of the common stock or preferred stock that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;
- the number of shares of common stock or preferred stock that may be purchased upon exercise of a warrant and the exercise price for the warrants;
- the dates on which the right to exercise the warrants shall commence and expire;

- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the antidilution provisions of the warrants, if any;
- the redemption or call provisions, if any, applicable to the warrants;
- any provisions with respect to holder's right to require us to repurchase the warrants upon a change in control or similar event; and
- any additional terms of the warrants, including procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

- to vote, consent or receive dividends;
- receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
- exercise any rights as stockholders of the Company.

DESCRIPTION OF DEBT SECURITIES

This description is a summary of the material provisions of the debt securities and the related indenture. We urge you to read the form of indenture filed as an exhibit to the registration statement of which this prospectus is a part because the indenture, and not this description, governs your rights as a holder of debt securities. References in this prospectus to an "indenture" refer to the particular indenture under which we may issue a series of debt securities.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in an officers' certificate or by a supplemental indenture. Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series. The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series, including any pricing supplement. The prospectus supplement will set forth specific terms relating to some or all of the following:

- the offering price;
- the title;
- any limit on the aggregate principal amount;
- the person who shall be entitled to receive interest, if other than the record holder on the record date;
- the date the principal will be payable;
- the interest rate, if any, the date interest will accrue, the interest payment dates and the regular record dates;
- the place where payments may be made;

- any mandatory or optional redemption provisions;
- if applicable, the method for determining how the principal, premium, if any, or interest will be calculated by reference to an index or formula;
- if other than U.S. currency, the currency or currency units in which principal, premium, if any, or interest will be payable and whether we or the holder may elect payment to be made in a different currency;
- the portion of the principal amount that will be payable upon acceleration of stated maturity, if other than the entire principal amount;
- any defeasance provisions if different from those described below under “Satisfaction and Discharge; Defeasance”;
- any conversion or exchange provisions;
- any obligation to redeem or purchase the debt securities pursuant to a sinking fund;
- whether the debt securities will be issuable in the form of a global security;
- any subordination provisions, if different from those described below under “Subordination”;
- any deletions of, or changes or additions to, the events of default or covenants; and
- any other specific terms of such debt securities.

Unless otherwise specified in the prospectus supplement, the debt securities will be registered debt securities. Debt securities may be sold at a substantial discount below their stated principal amount, bearing no interest or interest at a rate which at the time of issuance is below market rates.

Exchange and Transfer

Debt securities may be transferred or exchanged at the office of the security registrar or at the office of any transfer agent designated by us.

We will not impose a service charge for any transfer or exchange, but we may require holders to pay any tax or other governmental charges associated with any transfer or exchange.

In the event of any potential redemption of debt securities of any series, we will not be required to:

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

We may initially appoint the trustee as the security registrar. Any transfer agent, in addition to the security registrar, initially designated by us will be named in the prospectus supplement. We may designate additional transfer agents or change transfer agents or change the office of the transfer agent. However, we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

Global Securities

The debt securities of any series may be represented, in whole or in part, by one or more global securities. Each global security will:

- be registered in the name of a depository that we will identify in a prospectus supplement;
- be deposited with the depository or nominee or custodian; and
- bear any required legends.

No global security may be exchanged in whole or in part for debt securities registered in the name of any person other than the depository or any nominee unless:

- the depository has notified us that it is unwilling or unable to continue as depository or has ceased to be qualified to act as depository;
- an event of default is continuing; or
- the Company executes and delivers to the trustee an officers' certificate stating that the global security is exchangeable.

As long as the depository, or its nominee, is the registered owner of a global security, the depository or nominee will be considered the sole owner and holder of the debt securities represented by the global security for all purposes under the indenture. Except in the above limited circumstances, owners of beneficial interests in a global security:

- will not be entitled to have the debt securities registered in their names;
- will not be entitled to physical delivery of certificated debt securities; and
- will not be considered to be holders of those debt securities under the indentures.

Payments on a global security will be made to the depository or its nominee as the holder of the global security. Some jurisdictions have laws that require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may impair the ability to transfer beneficial interests in a global security.

Institutions that have accounts with the depository or its nominee are referred to as "participants." Ownership of beneficial interests in a global security will be limited to participants and to persons that may hold beneficial interests through participants. The depository will credit, on its book-entry registration and transfer system, the respective principal amounts of debt securities represented by the global security to the accounts of its participants.

Ownership of beneficial interests in a global security will be shown on and effected through records maintained by the depository, with respect to participants' interests, or any participant, with respect to interests of persons held by participants on their behalf.

Payments, transfers and exchanges relating to beneficial interests in a global security will be subject to policies and procedures of the depository.

The depository policies and procedures may change from time to time. Neither we nor the trustee will have any responsibility or liability for the depository's or any participant's records with respect to beneficial interests in a global security.

Payment and Paying Agent

The provisions of this paragraph will apply to the debt securities unless otherwise indicated in the prospectus supplement. Payment of interest on a debt security on any interest payment date will be made to the person in whose name the debt security is registered at the close of business on the regular record date. Payment on debt securities of a particular series will be payable at the office of a paying agent or paying agents designated by us. However, at our option, we may pay interest by mailing a check to the record holder. The corporate trust office will be designated as our sole paying agent.

We may also name any other paying agents in the prospectus supplement. We may designate additional paying agents, change paying agents or change the office of any paying agent. However, we will be required to maintain a paying agent in each place of payment for the debt securities of a particular series.

All moneys paid by us to a paying agent for payment on any debt security which remain unclaimed at the end of two years after such payment was due will be repaid to us. Thereafter, the holder may look only to us for such payment.

Consolidation, Merger and Sale of Assets

Except as otherwise set forth in the prospectus supplement, we may not consolidate with or merge into any other person, in a transaction in which we are not the surviving corporation, or convey, transfer or lease our properties and assets substantially as an entirety to, any person, unless:

- the successor, if any, is a U.S. corporation, limited liability company, partnership, trust or other entity;
- the successor assumes our obligations on the debt securities and under the indenture;
- immediately after giving effect to the transaction, no default or event of default shall have occurred and be continuing; and
- certain other conditions are met.

Events of Default

Unless we inform you otherwise in the prospectus supplement, the indenture will define an event of default with respect to any series of debt securities as one or more of the following events:

- (1) failure to pay principal of or any premium on any debt security of that series when due;
- (2) failure to pay any interest on any debt security of that series for 30 days when due;
- (3) failure to deposit any sinking fund payment when due;
- (4) failure to perform any other covenant in the indenture continued for 90 days after being given the notice required in the indenture;
- (5) our bankruptcy, insolvency or reorganization; and
- (6) any other event of default specified in the prospectus supplement.

An event of default of one series of debt securities is not necessarily an event of default for any other series of debt securities.

If an event of default, other than an event of default described in clause (5) above, shall occur and be continuing, either the trustee or the holders of at least 25% in aggregate principal amount of the outstanding securities of that series may declare the principal amount of the debt securities of that series to be due and payable immediately.

If an event of default described in clause (5) above shall occur, the principal amount of all the debt securities of that series will automatically become immediately due and payable. Any payment by us on subordinated debt securities following any such acceleration will be subject to the subordination provisions described below under "Subordinated Debt Securities."

After acceleration the holders of a majority in aggregate principal amount of the outstanding securities of that series may, under certain circumstances, rescind and annul such acceleration if all events of default, other than the non-payment of accelerated principal, or other specified amount, have been cured or waived.

Other than the duty to act with the required care during an event of default, the trustee will not be obligated to exercise any of its rights or powers at the request of the holders unless the holders shall have offered to the trustee reasonable indemnity. Generally, the holders of a majority in aggregate principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee.

A holder will not have any right to institute any proceeding under the indentures, or for the appointment of a receiver or a trustee, or for any other remedy under the indentures, unless:

- (1) the holder has previously given to the trustee written notice of a continuing event of default with respect to the debt securities of that series;
- (2) the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made a written request and have offered reasonable indemnity to the trustee to institute the proceeding; and
- (3) the trustee has failed to institute the proceeding and has not received direction inconsistent with the original request from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series within 90 days after the original request.

Holders may, however, sue to enforce the payment of principal or interest on any debt security on or after the due date without following the procedures listed in (1) through (3) above.

Modification and Waiver

Except as provided in the next two succeeding paragraphs, the applicable trustee and we may make modifications and amendments to the indentures (including, without limitation, through consents obtained in connection with a tender offer or exchange offer for, outstanding securities) and may waive any existing default or event of default (including, without limitation, through consents obtained in connection with a tender offer or exchange offer for, outstanding securities) with the consent of the holders of a majority in aggregate principal amount of the outstanding securities of each series affected by the modification or amendment.

However, neither we nor the trustee may make any amendment or waiver without the consent of the holder of each outstanding security of that series affected by the amendment or waiver if such amendment or waiver would, among other things:

- change the amount of securities whose holders must consent to an amendment, supplement or waiver;
- change the stated maturity of any debt security;
- reduce the principal on any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund;
- reduce the principal of an original issue discount security on acceleration of maturity;
- reduce the rate of interest or extend the time for payment of interest on any debt security;
- make a principal or interest payment on any debt security in any currency other than that stated in the debt security;
- impair the right to enforce any payment after the stated maturity or redemption date;

- waive any default or event of default in payment of the principal of, premium or interest on any debt security (except certain rescissions of acceleration); or
- waive a redemption payment or modify any of the redemption provisions of any debt security;

Notwithstanding the preceding, without the consent of any holder of outstanding securities, we and the trustee may amend or supplement the indentures:

- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;
- to provide for uncertificated securities in addition to or in place of certificated securities;
- to provide for the assumption of our obligations to holders of any debt security in the case of a merger, consolidation, transfer or sale of all or substantially all of our assets;
- to make any change that does not adversely affect the legal rights under the indenture of any such holder;
- to comply with requirements of the Commission in order to effect or maintain the qualification of an indenture under the Trust Indenture Act; or
- to evidence and provide for the acceptance of appointment by a successor trustee with respect to the debt securities of one or more series and to add to or change any of the provisions of the indenture as shall be necessary to provide for or facilitate the administration of the trusts by more than one Trustee.

The consent of holders is not necessary under the indentures to approve the particular form of any proposed amendment. It is sufficient if such consent approves the substance of the proposed amendment.

Satisfaction and Discharge; Defeasance

We may be discharged from our obligations on the debt securities of any series that have matured or will mature or be redeemed within one year if we deposit with the trustee enough cash to pay all the principal, interest and any premium due to the stated maturity date or redemption date of the debt securities.

Each indenture contains a provision that permits us to elect:

- to be discharged from all of our obligations, subject to limited exceptions, with respect to any series of debt securities then outstanding; and/or
- to be released from our obligations under the following covenants and from the consequences of an event of default resulting from a breach of certain covenants, including covenants as to payment of taxes and maintenance of corporate existence.

To make either of the above elections, we must deposit in trust with the trustee enough money to pay in full the principal and interest on the debt securities. This amount may be made in cash and/or U.S. government obligations. As a condition to either of the above elections, we must deliver to the trustee an opinion of counsel that the holders of the debt securities will not recognize income, gain or loss for federal income tax purposes as a result of the action.

If any of the above events occurs, the holders of the debt securities of the series will not be entitled to the benefits of the indenture, except for the rights of holders to receive payments on debt securities or the registration of transfer and exchange of debt securities and replacement of lost, stolen or mutilated debt securities.

Notices

Notices to holders will be given by mail to the addresses of the holders in the security register.

Governing Law

The indenture and the debt securities will be governed by, and construed under, the law of the State of New York.

Regarding the Trustee

The indenture limits the right of the trustee, should it become a creditor of us, to obtain payment of claims or secure its claims.

The trustee is permitted to engage in certain other transactions. However, if the trustee acquires any conflicting interest, and there is a default under the debt securities of any series for which they are trustee, the trustee must eliminate the conflict or resign.

Subordination

Payment on subordinated debt securities will, to the extent provided in the indenture, be subordinated in right of payment to the prior payment in full of all of our senior indebtedness (except that holders of the notes may receive and retain (i) permitted junior securities and (ii) payments made from the trust described under “Satisfaction and Discharge; Defeasance”). Any subordinated debt securities also are effectively subordinated to all debt and other liabilities, including lease obligations, if any.

Upon any distribution of our assets upon any dissolution, winding up, liquidation or reorganization, the payment of the principal of and interest on subordinated debt securities will be subordinated in right of payment to the prior payment in full in cash or other payment satisfactory to the holders of senior indebtedness. In the event of any acceleration of subordinated debt securities because of an event of default, the holders of any senior indebtedness would be entitled to payment in full in cash or other payment satisfactory to such holders of all senior indebtedness obligations before the holders of subordinated debt securities are entitled to receive any payment or distribution, except for certain payments made by the trust described under “Satisfaction and Discharge; Defeasance.” The indenture requires us or the trustee to promptly notify holders of designated senior indebtedness if payment of subordinated debt securities is accelerated because of an event of default.

We may not make any payment on subordinated debt securities, including upon redemption at the option of the holder of any subordinated debt securities or at our option, if:

- a default in the payment of the principal, premium, if any, interest, rent or other obligations in respect of designated senior indebtedness occurs and is continuing beyond any applicable period of grace (called a “payment default”); or
- a default other than a payment default on any designated senior indebtedness occurs and is continuing that permits holders of designated senior indebtedness to accelerate its maturity, and the trustee receives notice of such default (called a “payment blockage notice) from us or any other person permitted to give such notice under the indenture (called a “non-payment default”).

If the trustee or any holder of the notes receives any payment or distribution of our assets in contravention of the subordination provisions on subordinated debt securities before all senior indebtedness is paid in full in cash, property or securities, including by way of set-off, or other payment satisfactory to holders of senior indebtedness, then such payment or distribution will be held in trust for the benefit of holders of senior indebtedness or their representatives to the extent necessary to make payment in full in cash or payment satisfactory to the holders of senior indebtedness of all unpaid senior indebtedness.

In the event of our bankruptcy, dissolution or reorganization, holders of senior indebtedness may receive more, ratably, and holders of subordinated debt securities may receive less, ratably, than our other creditors (including our trade creditors). This subordination will not prevent the occurrence of any event of default under the indenture.

We are not prohibited from incurring debt, including senior indebtedness, under the indenture. We may from time to time incur additional debt, including senior indebtedness.

We are obligated to pay reasonable compensation to the trustee and to indemnify the trustee against certain losses, liabilities or expenses incurred by the trustee in connection with its duties under the indenture. The trustee's claims for these payments will generally be senior to those of noteholders in respect of all funds collected or held by the trustee.

Certain Definitions

"indebtedness" means:

- (1) all indebtedness, obligations and other liabilities for borrowed money, including overdrafts, foreign exchange contracts, currency exchange agreements, interest rate protection agreements, and any loans or advances from banks, or evidenced by bonds, debentures, notes or similar instruments, other than any account payable or other accrued current liability or obligation incurred in the ordinary course of business in connection with the obtaining of materials or services;
- (2) all reimbursement obligations and other liabilities with respect to letters of credit, bank guarantees or bankers' acceptances;
- (3) all obligations and liabilities in respect of leases required in conformity with generally accepted accounting principles to be accounted for as capitalized lease obligations on our balance sheet;
- (4) all obligations and other liabilities under any lease or related document in connection with the lease of real property which provides that we are contractually obligated to purchase or cause a third party to purchase the leased property and thereby guarantee a minimum residual value of the leased property to the lessor and our obligations under the lease or related document to purchase or to cause a third party to purchase the leased property;
- (5) all obligations with respect to an interest rate or other swap, cap or collar agreement or other similar instrument or agreement or foreign currency hedge, exchange, purchase or other similar instrument or agreement;
- (6) all direct or indirect guaranties or similar agreements in respect of, and our obligations or liabilities to purchase, acquire or otherwise assure a creditor against loss in respect of, indebtedness, obligations or liabilities of others of the type described in (1) through (5) above;
- (7) any indebtedness or other obligations described in (1) through (6) above secured by any mortgage, pledge, lien or other encumbrance existing on property which is owned or held by us; and
- (8) any and all refinancings, replacements, deferrals, renewals, extensions and refundings of, or amendments, modifications or supplements to, any indebtedness, obligation or liability of the kind described in clauses (1) through (7) above.

"permitted junior securities" means (i) equity interests in the Company; or (ii) debt securities of the Company that are subordinated to all senior indebtedness and any debt securities issued in exchange for senior indebtedness to substantially the same extent as, or to a greater extent than the notes are subordinated to senior indebtedness under the indenture.

"senior indebtedness" means the principal, premium, if any, interest, including any interest accruing after bankruptcy, and rent or termination payment on or other amounts due on our current or future indebtedness, whether created, incurred, assumed, guaranteed or in effect guaranteed by us, including any deferrals, renewals, extensions, refundings, amendments, modifications or supplements to the above. However, senior indebtedness does not include:

- indebtedness that expressly provides that it shall not be senior in right of payment to subordinated debt securities or expressly provides that it is on the same basis or junior to subordinated debt securities;
- our indebtedness to any of our majority-owned subsidiaries; and
- subordinated debt securities.

DESCRIPTION OF UNITS

This description is a summary of the certain provisions of the units, and does not purport to be complete and is subject to, and qualified in its entirety by reference to, the provisions of the unit agreement that will be filed with the SEC in connection with an offering of the units. The particular terms of any units offered by us will be described in the applicable prospectus supplement. To the extent the terms of the units described in the prospectus supplement differ from the terms set forth in this summary, the terms described in the prospectus supplement will supersede the terms described below.

We may issue units consisting of one or more of the other securities described in this prospectus or the applicable prospectus supplement in any combination in such amounts and in such numerous distinct series as we determine.

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security.

The terms of units described in the applicable prospectus supplement may include the following:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- a description of the terms of any unit agreement governing the units;
- a description of any provisions 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 the securities offered by this prospectus in any one or more of the following ways from time to time:

- directly to investors, including through a specific bidding, auction or other process;
- to investors through agents;
- directly to agents;
- to or through brokers or dealers;
- to the public through underwriting syndicates led by one or more managing underwriters;
- to one or more underwriters acting alone for resale to investors or to the public; or
- through a combination of any such methods of sale.

We may also sell the securities offered by this prospectus in “at the market offerings” within the meaning of Rule 415(a)(4) of the Securities Act.

The prospectus supplement related to a particular offering will set forth the terms of the offering and the method of distribution and will identify any firms acting as underwriters, dealers or agents in connection with the offering, including:

- the name or names of any underwriters, dealers or agents;
- the purchase price of the securities and the proceeds to us from the sale;
- any over-allotment options under which the underwriters may purchase additional securities from us;
- any underwriting discounts and other items constituting compensation to underwriters, dealers or agents;
- any public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; or
- any securities exchange or market on which the securities offered in the prospectus supplement may be listed.

Only those underwriters identified in such prospectus supplement are deemed to be underwriters in connection with the securities offered in the prospectus supplement. Any underwritten offering may be on a best efforts or a firm commitment basis.

The distribution of the securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed, at varying prices determined at the time of sale, or at prices determined as the applicable prospectus supplement specifies. The securities may be sold through a rights offering, forward contracts or similar arrangements. In any distribution of subscription rights to shareholders, if all of the underlying securities are not subscribed for, we may then sell the unsubscribed securities directly to third parties or may engage the services of one or more underwriters, dealers or agents, including standby underwriters, to sell the unsubscribed securities to third parties.

In connection with the sale of the securities, underwriters, dealers or agents may be deemed to have received compensation from us in the form of underwriting discounts or commissions and also may receive commissions from securities purchasers for whom they may act as agent. Underwriters may sell the securities to or through dealers, and the dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agent.

We will provide in the applicable prospectus supplement information regarding any underwriting discounts or other compensation that we pay to underwriters or agents in connection with the securities offering, and any discounts, concessions or commissions which underwriters allow to dealers. Underwriters, dealers and agents participating in the securities distribution may be deemed to be underwriters, and any discounts and commissions they receive and any profit they realize on the sale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act.

Underwriters and their controlling persons, dealers and agents may be entitled, under agreements entered into with us, to indemnification against and contribution toward specific civil liabilities, including liabilities under the Securities Act.

Unless otherwise specified in the related prospectus supplement, each series of securities will be a new issue with no established trading market, other than shares of our common stock, which are listed on The Nasdaq Capital Market. Any common stock sold pursuant to a prospectus supplement will be listed on The Nasdaq Capital Market, subject to compliance with applicable Nasdaq continued listing requirements. We may elect to list any series on an exchange, but we are not obligated to do so. It is possible that one or more underwriters may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of, or the trading market for, any offered securities.

In connection with an offering, the underwriters may purchase and sell securities in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in an offering. Stabilizing transactions consist of bids or purchases made for the purpose of preventing or retarding a decline in the market price of the securities while an offering is in progress. The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the underwriters have repurchased securities sold by or for the account of that underwriter in stabilizing or short-covering transactions. These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the securities. As a result, the price of the securities may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. Underwriters may engage in over-allotment. If any underwriters create a short position in the securities in an offering in which they sell more securities than are set forth on the cover page of the applicable prospectus supplement, the underwriters may reduce that short position by purchasing the securities in the open market.

Underwriters, dealers or agents that participate in the offer of securities, or their affiliates or associates, may be customers of, have engaged or engage in transactions with, and perform services for, us or our affiliates in the ordinary course of business for which they may have received or receive customary fees and reimbursement of expenses.

LEGAL MATTERS

The validity of any securities offered from time to time by this prospectus and any related prospectus supplement will be passed upon by DLA Piper LLP (US), Palo Alto, California. Any underwriters will also be advised about the validity of the securities and other legal matters by their own counsel, which will be named in the prospectus supplement.

EXPERTS

The consolidated financial statements of Predictive Oncology Inc. (the Company) as of December 31, 2023 and for the year ended December 31, 2023 incorporated by reference in this Prospectus and in the Registration Statement have been so incorporated in reliance on the report of BDO USA, P.C., an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

The consolidated financial statements of the Company as of December 31, 2022, and for the year ended December 31, 2022, incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2023, have been so incorporated in reliance on the report of Baker Tilly US, LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a web site that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

The Company's website address is www.predictive-oncology.com. Information on the Company's website, any subsection, page, or other subdivision of the Company's website, or any website linked to by content on the Company's website, is not part of this prospectus and you should not rely on that information unless that information is also in this prospectus or incorporated by reference in this prospectus.

This prospectus and any prospectus supplement are part of a registration statement on Form S-3 under the Securities Act we filed with the SEC and do not contain all of the information set forth in the registration statement and the exhibits to the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the indenture and other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. 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 DOCUMENTS BY REFERENCE

The SEC allows 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 this prospectus or 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 or a subsequently filed document incorporated by reference 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: We incorporate by reference the documents listed below and any future filings we will make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than information furnished in Current Reports on Form 8-K filed under Item 2.02 or 7.01 of such form unless such form expressly provides to the contrary):

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 filed on March 28, 2024;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2024 filed on May 14, 2024;
- Current Reports on Form 8-K filed on January 4, 2024, February 8, 2024, April 8, 2024 and May 15, 2024; and
- The description of the Company’s common stock filed as Exhibit 4.29 “Description of Registrant’s Securities” to the Company’s Annual Report on Form 10-K on March 28, 2024.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, which we refer to as the “Exchange Act” in this prospectus, prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in this prospectus but not delivered with this prospectus. Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus or any accompanying prospectus supplement. You may request a copy of this information at no cost, by writing or telephoning us at the following address or telephone number:

Predictive Oncology Inc.
Attention: Corporate Secretary
91 43rd Street, Suite 110
Pittsburgh, Pennsylvania 15201
(412) 432-1500

\$200,000,000



PREDICTIVE ONCOLOGY INC.

**Debt Securities
Common Stock
Preferred Stock
Warrants to Purchase Common Stock or Preferred Stock
Units**

PROSPECTUS

, 2024

The information in this prospectus supplement and the accompanying 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 supplement and accompanying prospectus are not an offer to sell these securities, and we are not soliciting an offer to buy these securities, in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED May 21, 2024

PROSPECTUS SUPPLEMENT



**Up to \$3,696,000
Common Stock**

We have entered into an ATM Sales Agreement (the “sales agreement”) with H.C. Wainwright & Co., LLC (“Wainwright”) relating to shares of our common stock, par value \$0.01 per share, offered by this prospectus supplement and the accompanying prospectus. In accordance with the terms of the sales agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$3,696,000 from time to time through Wainwright acting as our agent.

Our common stock is listed on The Nasdaq Capital Market under the symbol “POAI”. On May 20, 2024, the last reported sale price of our common stock on The Nasdaq Capital Market was \$1.69 per share.

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

The compensation to Wainwright for sales of common stock sold pursuant to the Sales Agreement will be at a fixed commission rate of 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, Wainwright will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of Wainwright will be deemed to be underwriting commissions or discounts. See “Plan of Distribution” beginning on page S-13 for additional information regarding the compensation to be paid to Wainwright. We have also agreed to provide indemnification and contribution to Wainwright against certain civil liabilities, including liabilities under the Securities Act.

The aggregate market value of shares of our common stock held by non-affiliates as of the date hereof pursuant to General Instruction I.B.6 of Form S-3 is \$11,088,966, which was calculated based on 3,988,837 shares of our common stock outstanding held by non-affiliates and at a price of \$2.78 per share, the closing price of our common stock on March 27, 2024. During the 12-calendar month period that ends on, and includes, the date of this prospectus, we have not offered or sold any securities pursuant to General Instruction I.B.6 of Form S-3, which exclude the shares of common stock issuable pursuant to the Sales Agreement, which are covered by this prospectus supplement.

Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading “Risk Factors” beginning on page S-9 of this prospectus supplement, under the heading “Risk Factors” beginning on page 11 of the accompanying prospectus, and the risk factors described in the documents that are incorporated by reference into this prospectus supplement and the accompanying prospectus, as they may be amended, updated or modified periodically in our reports filed with the Securities and Exchange Commission.

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

H.C. Wainwright & Co.

The date of this prospectus supplement is , 2024.

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We have not, and Wainwright has not, authorized any dealer, salesperson or other person to give any information or to make any representation other than those contained in or incorporated by reference into this prospectus supplement, the accompanying prospectus or any applicable free writing prospectus. You must not rely upon any information or representation not contained in or incorporated by reference into this prospectus supplement, the accompanying prospectus or any applicable free writing prospectus as if we had authorized it. This prospectus supplement, the accompanying prospectus and any applicable free writing prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor does this prospectus supplement, the accompanying prospectus or any applicable free writing prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus supplement, the accompanying prospectus, the documents incorporated herein and therein by reference and any applicable free writing prospectus is correct on any date after their respective dates, even though this prospectus supplement, the accompanying prospectus or an applicable free writing prospectus is delivered or securities are sold on a later date. Our business, financial condition, results of operations and cash flows may have changed since those dates.

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, utilizing a shelf registration process. The prospectus supplement describes the specific terms of this offering. The accompanying prospectus, includes the documents incorporated by reference, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. We urge you to carefully read this prospectus supplement and the accompanying prospectus, and the documents incorporated by reference herein and therein, before buying any of the securities being offered under this prospectus supplement. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein filed prior to the date of this prospectus supplement, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein.

You should rely only on the information contained in this prospectus supplement, the accompanying prospectus and any related free-writing prospectus that we or the underwriters provide to you or incorporated herein by reference in this prospectus supplement and contained or incorporated therein by reference in the accompanying prospectus. Neither we nor the underwriters have authorized anyone to provide you with different or additional information. If anyone provides you with different, additional or inconsistent information, you should not rely on it.

We are offering to sell the securities only in jurisdictions where such offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the securities in certain jurisdictions or to certain persons within such jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about and observe any restrictions relating to the offering of the securities and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

You should assume that the information in this prospectus supplement and the accompanying prospectus is accurate only as of the date on the front of the applicable document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus supplement or the accompanying prospectus, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus when making your investment decision. You should also read and consider the information in the documents we have referred you to in the sections of this prospectus supplement and the accompanying prospectus titled “Where You Can Find More Information” and “Information Incorporated by Reference.”

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 or in the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements made in this prospectus are “forward-looking statements” that indicate certain risks and uncertainties related to the Company, many of which are beyond the Company’s control. The Company’s actual results could differ materially and adversely from those anticipated in such forward-looking statements as a result of certain factors, including those set forth below and elsewhere in this report. Important factors that may cause actual results to differ from projections include:

- We may not be able to continue operating without additional financing;
- Continued negative operating cash flows;
- Our capital needs to accomplish our goals, including any further financing, which may be highly dilutive and may include onerous terms;
- Risks related to recent and future acquisitions, including risks related to the benefits and costs of acquisition;
- Risks related to our partnerships with other companies, including the need to negotiate the definitive agreements; possible failure to realize anticipated benefits of these partnerships; and costs of providing funding to our partner companies, which may never be repaid or provide anticipated returns;
- Risks related to the initiation, formation, or success of our collaboration arrangements, commercialization activities and product sales levels by our collaboration partners and future payments that may come due to us under these arrangements;
- Risk that we will be unable to protect our intellectual property or claims that we are infringing on others’ intellectual property;
- The impact of competition;
- Acquisition and maintenance of any necessary regulatory clearances applicable to applications of our technology;
- Inability to attract or retain qualified senior management personnel, including sales and marketing personnel;
- Risk that we never become profitable if our products and services are not accepted by potential customers;
- Possible impact of government regulation and scrutiny;
- Unexpected costs and operating deficits, and lower than expected sales and revenues, if any;
- Adverse results of any legal proceedings;
- The volatility of our operating results and financial condition,
- Management of growth;
- Risk that our business and operations could be materially and adversely affected by disruptions caused by economic and geopolitical uncertainties as well as epidemics or pandemics; and
- Other specific risks that may be alluded to in this report.

In some cases, you can identify forward-looking statements by terms such as “may”, “will”, “should”, “could”, “would”, “expects”, “plans”, “anticipates”, “believes”, “estimates”, “projects”, “predicts”, “potential” and similar expressions intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

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

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including our financial statements and related notes and the other information incorporated by reference into this prospectus supplement and the accompanying prospectus, including the information referred to under the heading “Risk Factors” in this prospectus supplement beginning on page S-9 of the accompanying prospectus and in the documents incorporated herein by reference.

About Predictive Oncology

We are a knowledge and science-driven company that applies artificial intelligence (“AI”) to support the discovery and development of optimal cancer therapies, which can ultimately lead to more effective treatments and improved patient outcomes. We use AI and a proprietary biobank of 150,000+ patient-derived primary cell tumor samples, categorized by tumor type, to provide actionable insights about drug compounds to improve the drug discovery process and increase the probability of drug compound success. We offer a suite of solutions for oncology drug development from early discovery to clinical trials.

Our mission is to change the landscape of oncology drug discovery and enable the development of more effective therapies for the treatment of cancer. By harnessing the power of machine learning, scientific rigor and biologics, we believe we can improve the probability of success and advance drug compounds with a higher degree of confidence.

We operate in three business areas: first, in the drug discovery continuum (i) the application of AI for optimized, high-confidence drug-response predictions that enables a more informed selection of drug/tumor combinations to increase the probability of success during development and (ii) the creation and development of tumor-specific 3D cell culture models; second, contract services and research focused on solubility improvements, stability studies, and protein production, and; third, production of the United States Food and Drug Administration (“FDA”)-cleared STREAMWAY® System for automated fluid waste management, direct-to-drain medical fluid disposal and associated products. As of January 1, 2023, we changed our reportable segments to align with these business areas.

We have three reportable segments that have been delineated by location and specialty:

- *Pittsburgh segment:* provides services that include the application of AI using its proprietary biobank of 150,000+ patient-derived primary cell tumor samples. Pittsburgh also utilizes 3D culture models in drug development.
- *Birmingham segment:* provides services and research using a proprietary self-contained and automated system that conducts high-throughput, self-interaction chromatography screens, using additives and excipients commonly included in protein formulations resulting in soluble and physically stable formulations of biologics focused on solubility improvements, stability studies, and protein production.
- *Eagan segment:* produces the United States Food and Drug Administration (“FDA”)-cleared STREAMWAY System for automated fluid waste management, direct-to-drain medical fluid disposal, and associated products.

Our Industry

Drug Discovery and Development Solutions

The growing demand for the improvement in the discovery and development process of novel drug therapies is driving the demand for AI-empowered solutions. Growing partnerships and cooperation are expected to fuel global market for AI in drug development. The adoption of AI solutions in the drug development process increases efficiency, reduces cycle time, and increases the productivity and accuracy of the risky and long process. Due to these advantages, the importance of AI in drug discovery and development is expected to drive the global market. AI-powered drug discovery is an emerging approach that considers individual variability in multi-omics, including genes, disease and environment to develop effective therapies. This approach predicts more accurately which treatment, dose, and therapeutic regimen could provide the best possible clinical outcome. Biopharmaceutical companies, contract research organizations, academia, and other stakeholders began integrating AI-based solutions in their drug development processes to enhance outcomes and curb costs.

We believe we are uniquely positioned with our PEDAL platform to provide early insights that clients can use to prioritize drugs for development and identify biomarker-informed indications. In addition, the PEDAL platform can be used to re-purpose previously failed drug compounds. We aim to leverage the PEDAL platform for our biopharma clients and help them prioritize their oncology portfolio. The PEDAL platform supports a biopharma client's decision on the drug molecules with a higher likelihood of clinical success. With PEDAL, we look to improve/enhance the way that the biopharma industry carries out the development of oncology drugs. We believe our platform provides unique financial- and time-saving advantages for pharmaceutical companies.

We believe the passage of the FDA Modernization Act 2.0 will increase the use of non-animal methods to study the mechanisms of diseases and to test the effectiveness of new drugs. The FDA Modernization Act 2.0 allows for alternatives to animal-testing requirements for the development of drugs and allows drug manufacturers to opt out of animal testing while utilizing other testing methods to develop drugs, such as cell-based assays, organ-on-a-chip technology, computer models, and other human biology-based test methods. We expect the market to continue to grow due to a shift towards more efficient, accurate and predictive models.

Infectious and Biohazardous Waste Management

There has long been recognition of the collective potential for ill effects to healthcare workers from exposure to infectious/biohazardous materials. Federal and state regulatory agencies have issued mandatory guidelines for the control of such materials, and particularly bloodborne pathogens. OSHA's Bloodborne Pathogens Standard (29 CFR 1910.1030) requires employers to adopt engineering and work practice controls that would eliminate or minimize employee exposure to hazards associated with bloodborne pathogens. In 2001, in response to the Needlestick Safety and Prevention Act, OSHA revised the Bloodborne Pathogens Standard. The revised standard clarifies and emphasizes the need for employers to select safer needle devices and to involve employees in identifying and choosing these devices. The revised standard also calls for the use of "automated controls" as it pertains to the minimization of healthcare exposure to bloodborne pathogens.

Most surgical procedures produce potentially infectious materials that must be disposed of with the lowest possible risk of cross-contamination to healthcare workers. Current standards of care allow for these fluids to be retained in canisters and located in the operating room where they can be monitored throughout the surgical procedure. Once the procedure is complete these canisters and their contents are disposed using a variety of methods, all of which include manual handling and result in a heightened risk to healthcare workers for exposure to their contents. Canisters are the most prevalent means of collecting and disposing of infectious fluids in hospitals today. Traditional, non-powered canisters and related suction and fluid disposable products are exempt and do not require FDA clearance.

We expect the hospital surgery market to continue to increase due to population growth, the aging of the population, and expansion of surgical procedures to new areas (for example, use of the endoscope) which requires more fluid management and new medical technology.

Corporate Information

Our principal executive offices are located at 91 43rd Street, Suite 110 Pittsburgh, Pennsylvania and our telephone number is (412) 432-1500.

We were originally incorporated in Minnesota on April 23, 2002, and reincorporated in Delaware in 2013. We changed our name from Skyline Medical Inc. to Precision Therapeutics Inc. on February 1, 2018 and to Predictive Oncology Inc. on June 13, 2019. Additional information about us is available on our website at predictive-oncology.com. Information contained on our website is not incorporated by reference into this prospectus supplement.

For a description of our business, financial condition, results of operations and other important information regarding us, we refer you to our filings with the SEC incorporated by reference into this prospectus supplement. For instructions on how to find copies of these documents, see “Where You Can Find More Information.”

THE OFFERING

Common stock offered by us	Shares of our common stock having an aggregate offering price of up to \$3,696,000.
Common stock outstanding immediately after this offering	Up to 6,249,835 shares, assuming that we sell the maximum dollar value of shares of our common stock available to be sold in this offering at a price of \$1.69 per share, which was the last reported sale price of our common stock on the Nasdaq Capital Market on May 20, 2024. The actual number of shares issued will vary depending on the sales prices under this offering. ⁽¹⁾
Plan of Distribution	“At the market offering” that may be made from time to time through our sales agent, H.C. Wainwright & Co., LLC. See “Plan of Distribution” in this prospectus supplement.
Use of Proceeds	We currently intend to use the net proceeds from this offering for working capital, research and development, marketing and sales, and general corporate purposes.
Risk Factors	Investing in our common stock involves a high degree of risk, and the purchasers of our common stock may lose all or part of their investment. Please see “Risk Factors” beginning on page S-9 of this prospectus supplement, as well as the other information included in or incorporated by reference in this prospectus supplement and the accompanying prospectus, for a discussion of risks you should carefully consider before investing in our securities.
Nasdaq Capital Market symbol	“POAI”

(1) The number of shares of our common stock to be outstanding immediately after this offering is based on 4,062,853 shares of common stock outstanding as of December 31, 2023 and excludes, as of that date:

- 47,664 shares of our common stock issuable upon exercise of outstanding stock options under our 2012 Equity Incentive Plan at a weighted average exercise price of \$82.23 per share;
- 1,806,589 shares of our common stock issuable upon exercise of outstanding warrants at a weighted average exercise price of \$21.52 per share;
- 16 shares of our common stock issuable upon the conversion of our Series B Convertible Preferred Stock; and
- 94,878 shares of our common stock reserved for future issuance under our 2012 Stock Incentive Plan and any other additional shares of our common stock that may become available under our 2012 Stock Incentive Plan.

Unless otherwise specifically stated, information throughout this prospectus supplement assumes that none of our outstanding options or warrants to purchase shares of our common stock are exercised.

RISK FACTORS

An investment in our securities involves a number of risks. Before deciding to invest in our securities, you should carefully consider the risks described below, together with all of the other information included in this prospectus supplement, the accompanying prospectus, and the information incorporated by reference herein and therein, including the discussion under the sections captioned "Risk Factors" contained in our most recent Annual Report on Form 10-K and any other subsequently filed document that is also incorporated or deemed to be incorporated by reference in this prospectus supplement. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. The risks described in the documents referenced above are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business.

Risks Related to this Offering

In making your investment decision, you should rely only on statements made in this prospectus supplement in determining whether to purchase our securities.

You should carefully evaluate all of the information in this prospectus supplement. We have in the past received, and may continue in the future to receive, media coverage, including coverage that is not directly attributable to statements made by our officers and employees, that incorrectly reports on statements made by our officers or employees or that is misleading as a result of omitting to state information provided by us or our officers or employees. You should rely only on the information contained in this prospectus supplement and the accompanying prospectus in determining whether to purchase our securities.

Management will have broad discretion as to the use of proceeds from this offering and we may use the net proceeds in ways with which you may disagree.

We currently intend to use the net proceeds of this offering for working capital, research and development, marketing and sales, and general corporate purposes. We have not allocated specific amounts of the net proceeds from this offering for any of the foregoing purposes. Our management will have broad discretion and flexibility in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock or other securities. Accordingly, you will be relying on the judgment of our management on the use of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. Our failure to apply these funds effectively could have a material adverse effect on our business, delay the development of our products and cause the price of our common stock or other securities to decline.

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

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

You may experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 2,186,982 shares of our common stock are sold at a price of \$1.69 per share, the last reported sale price of our common stock on the Nasdaq Capital Market on May 20, 2024, for aggregate gross proceeds of \$3,696,000, and after deducting commissions and estimated offering expenses payable by us, you may experience immediate dilution, representing the difference between our as adjusted net tangible book value per share at the time of such purchases, after giving effect to this offering and the assumed offering price.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We plan to reinvest all of our earnings, to the extent we have earnings, in order to continue to develop our products, to market our products, to cover operating costs and to otherwise become and remain competitive. We do not plan to pay any cash dividends with respect to our securities in the foreseeable future. Any future determination to pay cash dividends will be at the discretion of our board of directors and will depend on applicable law and then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant. See “Dividend Policy.” As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

The actual number of shares of common stock we will issue under the Sales Agreement, 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 Wainwright at any time throughout the term of the Sales Agreement. The number of shares that are sold by Wainwright 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 Wainwright. 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 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.

USE OF PROCEEDS

We currently intend to use the net proceeds from the sale of our common stock for general corporate purposes and working capital requirements. We may also use a portion of the net proceeds to:

- make capital expenditures,
- license or acquire intellectual property or technologies to incorporate into our products, or
- fund possible investments in and acquisitions of complementary businesses, partnerships and minority investments.

We have not determined the amounts we plan to spend on the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds of the offerings. We have no current plans, commitments or agreements with respect to any acquisition as of the date of this prospectus.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our shares of common stock and do not anticipate paying any cash dividends on our shares of common stock in the foreseeable future. Payment of cash dividends, if any, in the future will be at the discretion of our board of directors and will depend on applicable law and then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

PLAN OF DISTRIBUTION

We have entered into an ATM Sales Agreement (the “Sales Agreement”) with H.C. Wainwright & Co., LLC (“Wainwright”), pursuant to which we may issue and sell from time to time shares of our common stock, par value \$0.01 per share, through Wainwright, acting as our sales agent. Pursuant to this prospectus supplement, we may issue and sell shares of our common stock having an aggregate offering price of up to \$3,696,000. This summary of the material provisions of the Sales Agreement does not purport to be a complete statement of its terms and conditions. A copy of the Sales Agreement is filed as an exhibit to the registration statement of which this prospectus supplement forms a part.

Upon delivery of a placement notice and subject to the terms and conditions of the Sales Agreement, Wainwright may sell 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, including sales made directly on The Nasdaq Capital Market or any other existing trading market for our common stock. We or Wainwright may suspend the offering of our common stock upon notice and subject to other conditions.

We will pay Wainwright in cash, upon each sale of our common stock pursuant to the Sales Agreement, a commission in an amount of 3.0% of the gross sales price per share for any shares of common stock sold through Wainwright acting as our 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 Wainwright for certain specified expenses, in an aggregate amount not exceeding \$50,000, including the fees and disbursements of its legal counsel. We estimate that the total expenses for the offering, excluding compensation and reimbursements payable to Wainwright under the terms of the Sales Agreement, will be approximately \$265,000.

Settlement for sales of common stock will occur on the second business day following the date on which any sales are made, or on another date that is agreed upon by us and Wainwright in connection with a particular transaction, in return for payment of the net proceeds to us. Pursuant to recent amendments to Rule 15c6-1 of the Exchange Act, settlement for any securities offered under this prospectus supplement on or after May 28, 2024, may occur on the first business day that is also a trading day following the date on which any sales were made in return for payment of the net proceeds to us. Sales of our common stock as contemplated in this prospectus supplement will be settled through the facilities of The Depository Trust Company or by such other means as we and Wainwright may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

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

The offering of our common stock pursuant to the Sales Agreement will terminate upon the termination of the Sales Agreement as permitted therein. We and Wainwright may each terminate the Sales Agreement at any time upon ten days’ prior notice.

We have agreed to indemnify Wainwright and specified other persons against certain liabilities relating to or arising out of Wainwright’s activities under the Sales Agreement and to contribute to payments that Wainwright may be required to make in respect of such liabilities.

Wainwright and its affiliates may in the future provide various investment banking, commercial banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees. To the extent required by Regulation M, Wainwright will 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 Wainwright, and Wainwright may distribute this prospectus supplement and the accompanying prospectus electronically.

LEGAL MATTERS

The validity of any securities offered from time to time by this prospectus and any related prospectus supplement will be passed upon by DLA Piper LLP (US), Palo Alto, California. H.C. Wainwright & Co., LLC is being represented in connection with this offering by Cooley LLP, New York, New York.

EXPERTS

The consolidated financial statements of Predictive Oncology Inc. (the Company) as of December 31, 2023 and for the year ended December 31, 2023 incorporated by reference in this Prospectus and in the Registration Statement have been so incorporated in reliance on the report of BDO USA, P.C., an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

The consolidated financial statements of the Company as of December 31, 2022, and for the year ended December 31, 2022, incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2023, have been so incorporated in reliance on the report of Baker Tilly US, LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a web site that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

The Company's website address is www.predictive-oncology.com. Information on the Company's website, any subsection, page, or other subdivision of the Company's website, or any website linked to by content on the Company's website, is not part of this prospectus and you should not rely on that information unless that information is also in this prospectus or incorporated by reference in this prospectus.

This prospectus and any prospectus supplement are part of a registration statement on Form S-3 under the Securities Act we filed with the SEC and do not contain all of the information set forth in the registration statement and the exhibits to the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the indenture and other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. 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 DOCUMENTS BY REFERENCE

The SEC allows 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 this prospectus or 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 or a subsequently filed document incorporated by reference 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: We incorporate by reference the documents listed below and any future filings we will make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than information furnished in Current Reports on Form 8-K filed under Item 2.02 or 7.01 of such form unless such form expressly provides to the contrary):

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 filed on March 28, 2024;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2024 filed on May 14, 2024;
- Current Reports on Form 8-K filed on January 4, 2024, February 8, 2024, April 8, 2024, and May 15, 2024; and
- The description of the Company’s common stock filed as Exhibit 4.29 “Description of Registrant’s Securities” to the Company’s Annual Report on Form 10-K on March 28, 2024.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, which we refer to as the “Exchange Act” in this prospectus, prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in this prospectus but not delivered with this prospectus. Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus or any accompanying prospectus supplement. You may request a copy of this information at no cost, by writing or telephoning us at the following address or telephone number:

Predictive Oncology Inc.
Attention: Corporate Secretary
91 43rd Street, Suite 110
Pittsburgh, Pennsylvania 15201
(412) 432-1500



PREDICTIVE ONCOLOGY INC.

**Up to \$3,696,000
Common Stock**

PROSPECTUS SUPPLEMENT

H.C. Wainwright & Co.

, 2024

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses Of Issuance And Distribution.

The following table sets forth the costs and expenses, payable by the registrant in connection with the sale of common stock being registered. All amounts are estimates except the SEC registration fee.

Securities and Exchange Commission registration fee	\$ 5,577
FINRA filing fee	\$ 500
Printing and engraving expenses	\$ (1)
Legal fees and expenses	\$ (1)
Accounting fees and expenses	\$ (1)
Miscellaneous	\$ (1)
Total	\$ (1)

*Excludes registration fee offset pursuant to Rule 457 (p) of the Securities Act.

- (1) These fees are calculated based on the securities offered and the number of issuances and, accordingly, cannot be estimated at this time. An estimate of the aggregate expenses in connection with the sale and distribution of securities being offered will be included in the applicable prospectus supplement.

Item 15. Indemnification of Directors and Officers.

We are a Delaware corporation and certain provisions of the Delaware Statutes and our bylaws provide for indemnification of our officers and directors against liabilities that they may incur in such capacities. A summary of the circumstances in which indemnification is provided is discussed below, but this description is qualified in its entirety by reference to our bylaws and to the statutory provisions.

Section 145 of the Delaware General Corporation Law provides for, under certain circumstances, the indemnification of our officers, directors, employees and agents against liabilities that they may incur in such capacities. A summary of the circumstances in which such indemnification provided for is contained herein, but that description is qualified in its entirety by reference to the relevant Section of the Delaware General Corporation Law.

In general, the statute provides that any director, officer, employee or agent of a corporation may be indemnified against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement, actually and reasonably incurred in a proceeding (including any civil, criminal, administrative or investigative proceeding) to which the individual was a party by reason of such status. Such indemnity may be provided if the indemnified person's actions resulting in the liabilities: (i) were taken in good faith; (ii) were reasonably believed to have been in or not opposed to our best interest; and (iii) with respect to any criminal action, such person had no reasonable cause to believe the actions were unlawful. Unless ordered by a court, indemnification generally may be awarded only after a determination of independent members of the Board of Directors or a committee thereof, by independent legal counsel or by vote of the stockholders that the applicable standard of conduct was met by the individual to be indemnified.

The statutory provisions further provide that to the extent a director, officer, employee or agent is wholly successful on the merits or otherwise in defense of any proceeding to which he was a party, he is entitled to receive indemnification against expenses, including attorneys' fees, actually and reasonably incurred in connection with the proceeding.

Indemnification in connection with a proceeding by or in the right of the Company in which the director, officer, employee or agent is successful is permitted only with respect to expenses, including attorneys' fees actually and reasonably incurred in connection with the defense. In such actions, the person to be indemnified must have acted in good faith, in a manner believed to have been in our best interest and must not have been adjudged liable to us unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability, in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expense which the Court of Chancery or such other court shall deem proper. Indemnification is otherwise prohibited in connection with a proceeding brought on behalf of the Company in which a director is adjudged liable to us, or in connection with any proceeding charging improper personal benefit to the director in which the director is adjudged liable for receipt of an improper personal benefit.

Delaware law authorizes us to reimburse or pay reasonable expenses incurred by a director, officer, employee or agent in connection with a proceeding in advance of a final disposition of the matter. Such advances of expenses are permitted if the person furnishes to us a written agreement to repay such advances if it is determined that he is not entitled to be indemnified by us.

The statutory section cited above further specifies that any provisions for indemnification of or advances for expenses does not exclude other rights under our certificate of incorporation, corporate bylaws, resolutions of our stockholders or disinterested directors, or otherwise. These indemnification provisions continue for a person who has ceased to be a director, officer, employee or agent of the corporation and inure to the benefit of the heirs, executors and administrators of such persons.

The statutory provision cited above also grants the power to the Company to purchase and maintain insurance policies that protect any director, officer, employee or agent against any liability asserted against or incurred by him in such capacity arising out of his status as such. Such policies may provide for indemnification whether or not the corporation would otherwise have the power to provide for it.

Article 8 of our certificate of incorporation provides that we shall indemnify our directors and officers to the fullest extent permitted by the Delaware General Corporation Law.

We have purchased directors' and officers' liability insurance in order to limit the exposure to liability for indemnification of directors and officers, including liabilities under the Securities Act of 1933.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted for our directors, officers, and controlling persons pursuant to the foregoing provisions or otherwise, we have been advised that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

Item 16. Exhibits.

EXHIBIT INDEX

Exhibit Number	Description
1.1**	Form of Underwriting Agreement
1.2	<u>Sales Agreement, dated as of May 3, 2024, by and between the Registrant and H.C. Wainwright & Co., LLC. (Filed on May 6, 2024 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.)</u>
2.1	<u>Agreement and Plan of Merger dated November 24, 2021 by and among the Company, Golden Gate Acquisition, Inc., zPREDICTA, Inc. and Tom Kelly, as Representative (Filed on December 1, 2021 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference).</u>
3.1	<u>Certificate of Incorporation (Filed on December 19, 2013 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference).</u>

- [3.2](#) [Certificate of Amendment to Certificate of Incorporation to effect reverse stock split and reduction in authorized share capital filed with the Delaware Secretary of State on October 20, 2014. \(Filed on October 24, 2014 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\)](#)
- [3.3](#) [Certificate of Amendment to Certificate of Incorporation regarding increase in share capital, filed with the Delaware Secretary of State on July 24, 2015. \(Filed on June 30, 2015 as an appendix to our Information Statement on Schedule 14C, and incorporated herein by reference\).](#)
- [3.4](#) [Certificate of Amendment to Certificate of Incorporation to increase authorized share capital, filed with the Delaware Secretary of State on September 16, 2016. \(Filed on September 16, 2016 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.5](#) [Certificate of Amendment to Certificate of Incorporation to effect reverse stock split and reduction in authorized share capital, filed with the Delaware Secretary of State on October 26, 2016. \(Filed on October 27, 2016 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.6](#) [Certificate of Amendment to Certificate of Incorporation regarding increase in share capital, filed with the Delaware Secretary of State on January 26, 2017. \(Filed on January 27, 2017 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.7](#) [Certificate of Amendment to Certificate of Incorporation to effect reverse stock split, filed with the Delaware Secretary of State on January 2, 2018. \(Filed on January 2, 2018 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.8](#) [Certificate of Amendment to Certificate of Incorporation to effect name change, filed with the Delaware Secretary of State on February 1, 2018. \(Filed on February 6, 2018 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.9](#) [Form of Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Preferred Stock. \(Filed on August 20, 2015 as an exhibit to our Registration Statement on Form S-1 \(File No. 333-198962\), and incorporated herein by reference.](#)
- [3.10](#) [Certificate of Designation of Preferences, Rights and Limitations of Series C Convertible Preferred Stock. \(Filed on November 29, 2017 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.11](#) [Certificate of Amendment to Certificate of Incorporation dated March 22, 2019. \(Filed on March 22, 2019 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.12](#) [Certificate of Designation Of Preferences, Rights And Limitations of Series D Convertible Preferred Stock. \(Filed on April 1, 2020 as an exhibit to our Annual Report on Form 10-K, and incorporated herein by reference\).](#)
- [3.13](#) [Certificate of Designation of Preferences, Rights and Limitations of Series E Convertible Preferred Stock Effective June 13, 2019. \(Filed on June 19, 2019 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.14](#) [Certificate of Amendment of Certificate of Incorporation, changing name from Precision Therapeutics Inc. to Predictive Oncology Inc. \(Filed on June 13, 2019 as an exhibit to our Current Report on Form 8-K, and incorporated herein by reference\).](#)
- [3.15](#) [Certificate of Amendment of Certificate of Incorporation, amending number of shares of common stock and preferred stock, effecting a reverse stock split. \(Filed on October 28, 2019 as an exhibit to our Current Report on Form 8-K\).](#)

- [3.16](#) [Certificate of Amendment to the Certificate of Incorporation, doubling number of shares of common stock and preferred stock due to stock split. \(Filed on August 19, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [3.17](#) [Certificate of Designation of Series F Preferred Stock \(Filed on March 16, 2023 as an exhibit to the Form 8-A and incorporated herein by reference.\)](#)
- [3.18](#) [Certificate of Amendment to Certificate of Incorporation \(Filed on April 20, 2023 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [3.19](#) [Second Amended and Restated Bylaws of the Company, effective as of September 9, 2022 \(Filed on September 30, 2022 as an exhibit to our Registration Statement on Form S-1 \(File No. 333-267689\).](#)
- [4.1](#) [Form of specimen certificate evidencing shares of Series B Convertible Preferred Stock. \(Filed on August 10, 2015 as an exhibit to our Registration Statement on Form S-1/A \(File No. 333-198962\) and incorporated herein by reference.\)](#)
- [4.2](#) [Form of Unit Purchase Option issued February 27, 2019. \(Filed on March 1, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.3](#) [Form of Common Stock Purchase Warrant issued March 29, 2019. \(Filed on April 2, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.4](#) [Form of Unit Purchase Option for the Purchase of Units issued March 29, 2019. \(Filed on April 2, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.5](#) [Common Stock Purchase Warrant Issued to Oasis Capital, LLC dated September 27, 2019. \(Filed on September 30, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.6](#) [Form of Specimen Common Stock Certificate. \(Filed on October 3, 2019 as an exhibit to our Registration Statement on Form S-3 \(File No. 333-234073\) and incorporated herein by reference.\)](#)
- [4.7](#) [Form of Common Stock Purchase Warrant Issued on or about October 1, 2019. \(Filed on October 10, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.8](#) [Common Stock Purchase Warrant issued to Oasis Capital, LLC dated February 5, 2020. \(Filed on February 7, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.9](#) [Description of Registrant's Securities. \(Filed on March 31, 2022 as an exhibit to our Annual Report on Form 10-K for the year ended December 31, 2021 and incorporated herein by reference.\)](#)
- [4.10](#) [Common Stock Purchase Warrant issued to Oasis Capital, LLC dated March 6, 2020. \(Filed on April 6, 2020 as an exhibit to our Registration Statement on Form S-3 \(File No. 333-237581\) and incorporated herein by reference.\)](#)
- [4.11](#) [Form of Helomics Common Stock Purchase Warrant issued April 4, 2019. \(Filed on January 24, 2019 as Annex H to Amendment No. 2 to Form S-4 \(File No. 333-228031\) and incorporated herein by reference.\)](#)
- [4.12](#) [Form of Common Stock Purchase Warrant issued January 12, 2021. \(Filed on January 12, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)

- [4.13](#) [Form of Common Stock Purchase Warrant issued January 19, 2021. \(Filed on January 21, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.14](#) [Form of Placement Agent Warrant to H.C. Wainwright & Co., LLC or its designees in connection with certain financing transactions in 2020 and 2021. \(Filed on January 29, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.15](#) [Form of Common Stock Purchase Warrant dated February 10, 2021. \(Filed on February 12, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.16](#) [Form of Common Stock Purchase Warrant dated February 23, 2021. \(Filed on February 22, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.17](#) [Form of Common Stock Purchase Warrant dated June 16, 2021. \(Filed on June 16, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.18](#) [Form of Placement Agent Warrant dated June 16, 2021. \(Filed on June 16, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.19](#) [Form of Series A Warrant \(Filed on January 2, 2018 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.20](#) [Form of Series B Warrant \(Filed on March 16, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.21](#) [Form of Prefunded Warrant \(Filed on March 16, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.22](#) [Form of Prefunded Common Stock Purchase Warrant \(Filed on March 23, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.23](#) [Common Stock Purchase Warrant issued to Oasis Capital, LLC dated April 5, 2020 \(Filed on April 6, 2020 as an exhibit to our Registration Statement on Form S-3 \(File No. 333-237581\) and incorporated herein by reference\).](#)
- [4.24](#) [Form of Common Stock Purchase Warrant \(Filed on May 8, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.25](#) [Form of Common Stock Purchase Warrant Issued to Investors \(Filed on June 26, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.26](#) [Form of Common Stock Purchase Warrant \(Filed on October 10, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.27](#) [Form of Common Stock Purchase Warrant \(Filed on January 12, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.28](#) [Form of Common Stock Purchase Warrant \(Filed on January 21, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.29](#) [Form of Common Stock Purchase Warrant \(Filed on January 26, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)
- [4.30](#) [Form of Placement Agent Warrant to H.C. Wainwright & Co., LLC or its designees in connection with certain financing transactions in 2020 and 2021 \(Filed on January 29, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.\)](#)

- [4.31](#) Form of Common Stock Purchase Warrant dated February 16, 2021 ([Filed on February 12, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.](#))
- [4.32](#) Form of Common Stock Purchase Warrant dated February 22, 2021 ([Filed on February 22, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.](#))
- 4.41** Form of Warrant Agreement
- 4.42** Form of Warrant Agent Agreement
- 4.43** Form of Indenture
- 4.44** Form of Unit Agreement
- 4.45** Form of Preferred Stock Certificate and Certificate of Designation of Preferred Stock
- 5.1 Opinion of DLA Piper LLP (US), ([incorporated by reference to Exhibit 5.1 to the Registration Statement on Form S-3 \(File No. 333-279123\), filed on May 6, 2024](#))
- [23.1*](#) [Consent of BDO USA P.C.](#)
- [23.2*](#) [Consent of Baker Tilly US, LLP](#)
- 23.3 Consent of DLA Piper LLP (US) ([included as part of Exhibit 5.1](#))
- 24.1*** Power of Attorney
- 25.1**** Statement of Eligibility on Form T-1 of Trustee under the Trust Indenture Act of 1939.
- [107*](#) [Filing Fee Table](#)

* Filed herewith

** To be filed by amendment of an exhibit to a Current Report on Form 8-K and incorporated herein by reference, if applicable.

***Filed Previously

****To be filed separately, if applicable, in accordance with the requirements of Section 305(b)(2) of the Trust Indenture Act of 1939 as amended, and the appropriate rules and regulations thereunder.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

- (a) (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 of 1933;

- (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, an 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 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 Registration Fee" table in the effective registration statement;
 - (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.
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, 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 of the registrant under the Securities Act of 1933 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), 424(b)(5), or 424(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), 415(a)(1)(vii), or 415(a)(1)(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 of 1933 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;
 - (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.
- (b) The undersigned registrant hereby further undertakes that, for the purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 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 this 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.
- (c) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) 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.
- (d) 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 SEC 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 of 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.

- (e) If and when applicable, the Registrant hereby further undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Securities and Exchange Commission under Section 305(b)(2) of the Trust Indenture Act.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Amendment No. 1 to the registration statement on Form S-3 to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Pittsburgh, Commonwealth of Pennsylvania, on May 21, 2024.

PREDICTIVE ONCOLOGY INC.

/s/ Raymond Vennare
Raymond Vennare
Chief Executive Officer

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Raymond Vennare</u> Raymond Vennare	Chief Executive Officer (principal executive officer) and Director	May 21, 2024
<u>/s/ Josh Blacher</u> Josh Blacher	Interim Chief Financial Officer (principal financial and accounting officer)	May 21, 2024
<u>*</u> Gregory S. St. Clair, Sr.	Director	May 21, 2024
<u>*</u> Dan Hadley	Director	May 21, 2024
<u>*</u> Chuck Nuzum	Director	May 21, 2024
<u>*</u> Nancy Chung-Welch	Director	May 21, 2024
<u>*</u> Matthew Hawryluk	Director	May 21, 2024
<u>*</u> Veena Rao	Director	May 21, 2024
<u>* By: /s/ Josh Blacher</u> Josh Blacher Attorney-in-Fact		

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated March 28, 2024, relating to the consolidated financial statements of Predictive Oncology Inc. (the Company) appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2023. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/BDO USA, P.C.

Minneapolis, Minnesota
May 21, 2024

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Amendment No. 1 to the Registration Statement on Form S-3 (Registration No. 333-279123) of Predictive Oncology Inc. of our report dated March 21, 2023, relating to the consolidated financial statements of Predictive Oncology Inc., appearing in the Annual Report on Form 10-K for the year ended December 31, 2022. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ Baker Tilly US, LLP

Minneapolis, Minnesota
May 21, 2024

CALCULATION OF FILING FEE TABLE

Form S-3
(Form Type)Predictive Oncology 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 (1)	Proposed Maximum Offering Price Per Unit (2)	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Fees to Be Paid	Equity	Common Stock, \$0.01 par value per share	457(o)	-	-	-	-	-
Fees to Be Paid	Equity	Preferred Stock, \$0.01 par value per share	457(o)	-	-	-	-	-
Fees to Be Paid	Debt	Debt securities	457(o)	-	-	-	-	-
Fees to Be Paid	Equity	Warrants	457(o)	-	-	-	-	-
Fees to Be Paid	Other	Units	457(o)	-	-	-	-	-
Fees to Be Paid	Unallocated (Universal) Shelf	Unallocated (Universal) Shelf (1)	457(o)	-	-	\$200,000,000	0.00014760	\$29,520
Fees Previously Paid	-	-	-	-	-	-	-	-
	Total Offering Amounts					\$200,000,000		\$29,520
	Total Fees Previously Paid							-
	Total Fee Offsets							\$23,943(3)
	Net Fee Due							\$5,577

(1) Predictive Oncology Inc. (the “Registrant”), is registering under this registration statement such indeterminate number of shares of common stock and preferred stock, such indeterminate principal amount of debt securities, such indeterminate number of warrants to purchase common stock and/or preferred stock, and such indeterminate number of units as may be sold by the Registrant from time to time, which together shall have an aggregate initial offering price not to exceed \$200,000,000. The Registrant may sell any securities the Registrant is registering under this registration statement separately or as units with one or more of the other securities being registered under this registration statement. The Registrant will determine, from time to time, the proposed maximum offering price per unit in connection with its issuance of the securities the Registrant is registering under this registration statement. The securities the Registrant is registering under this registration statement also include such indeterminate number of shares of common stock and preferred stock as the registrant may issue upon conversion of or exchange for preferred stock or debt securities that provide for conversion or exchange, upon exercise of warrants or pursuant to the antidilution provisions of any of such securities. In addition, pursuant to Rule 416 under the Securities Act of 1933, as amended, (the “Securities Act”), the shares the Registrant is registering under this registration statement include such indeterminate number of shares of common stock and preferred stock as may be issuable with respect to the shares the Registrant is registering as a result of stock splits, stock dividends or similar transactions.

(2)The proposed maximum offering price per security 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 of the Instructions to the Calculation of Filing Fee Tables and Related Disclosure of Form S-3.

(3)On April 28, 2021, the Registrant filed a registration statement on Form S-3 (File No. 333-255582), which was declared effective on May 5, 2021 (the “Prior Registration Statement”), registering the issuance of up to \$250,000,000 of common stock, preferred stock, warrants, debt securities and units, for which a filing fee of \$27,275 was paid. The Registrant offered and sold an aggregate of \$30,541,995 of securities under the Prior Registration Statement, which equated to an associated registration fee of \$3,332. Accordingly, the unused registration fee paid in connection with the Prior Registration Statement was \$23,943. In accordance with Rule 457(p) under the Securities Act, the registration fee applicable to the \$200,000,000 being registered hereunder is being offset by the unused registration fee paid in connection with the Prior Registration Statement for the \$219,458,005 of unsold securities. The Prior Registration Statement expired on May 5, 2024 and therefore all offerings that may have included unsold securities under the Prior Registration Statement have terminate

TABLE 2: FEE OFFSET CLAIMS AND SOURCES

	Registrant of Filer Name	Form or Filing Type	File Number	Initial Filing Date	Fee Offset Claimed	Security Type Associated with Fee Offset Claimed	Security Title Associated with Fee Offset Claimed	Unsold Securities Associated with Fee Offset Claimed	Unsold Aggregate Offering Amount Associated with Fee Offset Claimed	Fee Paid with Fee Offset Source
Fee Offset Claims	Predictive Oncology Inc.	S-3	333-255582	April 28, 2021	\$23,943	Unallocated (Universal) Shelf	-	-	\$219,458,005 (1)	-
Fee Offset Sources	Predictive Oncology Inc.	S-3	333-255582	-	June 16, 2021	-	-	-	-	\$2,547(1)
Fee Offset Sources	Predictive Oncology Inc.	S-3	333-255582	-	May 18, 2022	-	-	-	-	\$251(1)
Fee Offset Sources	Predictive Oncology Inc.	S-3	333-255582	-	May 18, 2022	-	-	-	-	\$534(1)

(1) See footnote (3) under Table 1 above.