



PREDICTIVE ONCOLOGY INC.

363,336 Shares of Common Stock

We are offering 363,336 shares of our common stock, par value \$0.01 per share, pursuant to this prospectus supplement and the accompanying prospectus, directly to institutional investors.

Our common stock is listed on The Nasdaq Capital Market under the symbol "POAI." The last reported sale price of our common stock on The Nasdaq Capital Market on February 18, 2025, was \$1.95 per share.

As of the date of this prospectus supplement, the aggregate market value of our outstanding shares of common stock held by non-affiliates, or our public float, was \$13,331,732 based on a total of 6,846,356 outstanding shares of common stock, of which 6,733,198 shares of common stock were held by non-affiliates, and a price of \$1.95 per share, which was the last reported sale price of our common stock on February 18, 2025. Pursuant to General Instruction I.B.6. of Form S-3, in no event will we sell securities, registered on the registration statement, of which this prospectus supplement is a part, in a public primary offering with a value exceeding more than one-third of the aggregate market value of our common stock in any 12 calendar month period so long as the aggregate market value of our outstanding common stock held by non-affiliates remains below \$75 million. Following the sale of shares in this offering, we will have sold securities with an aggregate market value of \$4.2 million pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus supplement.

Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page S-5 of this prospectus supplement and page 7 of the accompanying prospectus for a discussion of information that should be considered in connection with an investment in our common stock.

We have engaged H.C. Wainwright & Co., LLC, or the placement agent, as our exclusive placement agent in connection with this offering. The placement agent has no obligation to buy any shares of common stock from us or to arrange for the purchase or sale of any specific number or dollar amount of securities. We have agreed to pay the placement agent the fees set forth in the table below, which assumes that we sell all of the securities we are offering.

	PER SHARE	TOTAL
Offering price	\$ 1.50	\$ 545,004.00
Placement agent fees ⁽¹⁾	\$ 0.11	\$ 38,150.28
Proceeds to us, before expenses	\$ 1.39	\$ 506,853.72

- (1) We will pay the placement agent a cash fee equal to 7.0% and a management fee equal to 1.0% of the aggregate gross proceeds to us from the sale of the shares in the offering. In addition, we have agreed to pay the placement agent for certain expenses and to issue to the placement agent or its designees warrants to purchase a number of shares of common stock equal to 7.0% of the aggregate number of shares of common stock sold in this offering. See "Plan of Distribution" beginning on page S-8 of this prospectus supplement for more information regarding the placement agent's compensation.

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

Delivery of the shares of common stock offered hereby is expected to take place on or about February 19, 2025, subject to satisfaction of certain closing conditions.

H.C. Wainwright & Co.

The date of this prospectus supplement is February 18, 2025

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You should rely only on the information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus that we have authorized for use in connection with this offering. We have not, and the placement agent has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the placement agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement and the accompanying prospectus, and the documents incorporated by reference in this prospectus supplement is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus supplement entitled “Where You Can Find More Information” and “Information Incorporated by Reference.”

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is 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, offer and sell or otherwise dispose of the securities covered by this prospectus supplement. The prospectus supplement describes the specific terms of this offering. We urge you to carefully read this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein, before buying any of the securities being offered under this prospectus supplement. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made the accompanying prospectus or in any documents incorporated by reference herein 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 such documents incorporated by reference herein.

You should rely only on the information contained in this prospectus supplement and any related free-writing prospectus that we provide to you or incorporated herein by reference in this prospectus supplement. We have not 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.

You should assume that the information in this prospectus supplement is accurate only as of the date on the front cover 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 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 herein 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 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 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 supplement and the accompanying prospectus are “forward-looking statements” that indicate certain risks and uncertainties related to Predictive Oncology Inc. (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. 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 11 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+ 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.

On July 25, 2024, our board of directors approved a plan to implement a strategic cost savings initiative, primarily related to the consolidation of the operations of our Birmingham laboratory into our Pittsburgh laboratory. We began implementing the cost savings initiative in August 2024 and continue to review its progress and effectiveness, including impact of the changes on our operating segments in future reporting periods with the closure of our Birmingham laboratory.

We operate in two 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 area, we produce 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.

Our business is delineated by location and specialty:

- *Pittsburgh*: 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 and provides other contract services and research in the drug discovery continuum.
- *Eagan*: produces the United States Food and Drug Administration (“FDA”)-cleared STREAMWAY System and associated products for automated 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 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 or the accompanying 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 into this prospectus supplement. For instructions on how to find copies of these documents, see "Where You Can Find More Information."

THE OFFERING

Offering Price	\$1.50 per share.
Common stock offered by us	363,336 shares.
Common stock to be outstanding immediately after this offering	7,209,701 shares.
Proceeds of offering	We estimate that the net proceeds from this offering will be approximately \$466,000, after deducting placement agent fees and estimated offering expenses.
Use of proceeds	We intend to use the net proceeds from this offering for working capital and general corporate purposes. See "Use of Proceeds" on page S-7 of this prospectus supplement.
Risk factors	An investment in our securities involves a high degree of risk. You should carefully consider the information under "Risk Factors" beginning on page S-5 of this prospectus supplement and on page 7 of the accompanying prospectus and the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus, including the risks discussed under the heading "Risk Factors" in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2023.
Listing	Our common stock is listed on The Nasdaq Capital Market under the symbol "POAI."

The number of shares of our common stock to be outstanding immediately after this offering is based on 6,846,365 shares of common stock outstanding as of February 18, 2025, which excludes:

- 363,336 shares of our common stock to be issued and sold by us in the concurrent registered direct offering;
- 43,595 shares of our common stock issuable upon the exercise of stock options outstanding as of February 18, 2025, having a weighted average exercise price of \$82.70 per share;
- 1,058,688 shares of our common stock reserved for future issuance under our 2024 Equity Incentive Plan; and
- 2,566,326 shares of our common stock issuable upon the exercise of common stock purchase warrants outstanding as of February 18, 2025, having a weighted-average exercise price of \$9.38 per share.

Except as otherwise indicated, all information in this prospectus supplement assumes no exercise of the outstanding stock options or warrants or settlement of the restricted stock units described above.

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, 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 and accompanying prospectus. 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

The sale of a substantial amount of our common shares could adversely affect the prevailing market price of our common shares.

We are offering 363,336 shares of Common Stock. Sales of substantial amounts of our shares of Common Stock in the public market, or the perception that such sales might occur, could adversely affect the market price of our shares of Common Stock. Furthermore, in the future, we may issue additional shares of Common Stock or other equity or debt securities convertible into shares of Common Stock. Any such issuance could result in substantial dilution to our existing shareholders and could cause our share price to decline.

Our management will have broad discretion over the use of the net proceeds from this offering, you may not agree with how we use the proceeds, and the proceeds may not be invested successfully.

Our management will have broad discretion as to the use of the net proceeds from any offering by us and could use them for purposes other than those contemplated at the time of this offering. Accordingly, you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the proceeds will be invested in a way that does not yield a favorable, or any, return for us.

We may not meet the continued listing requirements of Nasdaq, which could cause our common shares to be delisted.

To maintain the listing of our common shares on Nasdaq, we must satisfy minimum financial and other continued listing requirements and standards, including those related to the price of our shares of Common Stock, and maintaining certain levels of our outstanding equity. Pursuant to the requirements of Nasdaq, if the Company no longer in compliance with these requirements, Nasdaq will notify the company that it is no longer in compliance with the Nasdaq listing qualifications and the company will be provided a particular amount of time to regain compliance.

There can be no assurance that we will regain and maintain compliance with the Minimum Bid Requirement, Equity Requirement, and the other listing requirements of the Nasdaq, or that we will not be delisted. If we are not able stay in compliance with the relevant Minimum Bid Requirement or Equity Requirement, there is a risk that our shares of Common Stock may be delisted from Nasdaq, which would adversely impact liquidity of our shares of Common Stock and potentially result in even lower bid process for our shares of Common Stock.

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 in determining whether to purchase our securities.

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.

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.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$466,000.00, after deducting placement agent fees and estimated offering expenses. We expect to use the net proceeds from this offering 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 this offering. We have no current plans, commitments or agreements with respect to any acquisition as of the date of this prospectus supplement other than previously disclosed in our filings with the SEC.

DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering shares of common stock. The following description of our shares of common stock summarizes the material terms and provisions thereof, including the material terms of the shares of common stock we are offering under this prospectus supplement and the accompanying prospectus. 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.

Common Stock

As of January 6, 2025, we had 6,667,221 shares of common stock outstanding held by approximately 153 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.

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 January 6, 2025, the last reported sale price per share for our common stock as reported by The Nasdaq Capital Market was \$1.89.

PLAN OF DISTRIBUTION

Pursuant to an engagement letter agreement dated May 14, 2024, and subsequently amended on February 18, 2025, we engaged H.C. Wainwright & Co., LLC to act as our exclusive placement agent in connection with the offering pursuant to this prospectus supplement and the accompanying prospectus.

The placement agent is not purchasing or selling any shares of our common stock offered by this prospectus supplement, nor is it required to arrange for the purchase and sale of any specific number or dollar amount of the shares of common stock, other than to use its "reasonable best efforts" to arrange for the sale of such shares by us. Therefore, we may not sell all of the shares of our common stock being offered. The terms of this offering were subject to market conditions and negotiations between us, the placement agent and prospective investors. The placement agent will have no authority to bind us by virtue of the engagement letter. We have entered into securities purchase agreements directly with certain institutional and accredited investors who have agreed to purchase shares of our common stock in this offering. We will only sell to investors who have entered into securities purchase agreements.

We expect to deliver the shares of common stock being offered pursuant to this prospectus supplement on or about February 19, 2025, subject to satisfaction of certain closing conditions.

We have agreed to indemnify the placement agent and specified other persons against certain liabilities relating to or arising out of the placement agent's activities and to contribute to payments that the placement agent may be required to make in respect of such liabilities.

Fees and Expenses

We have agreed to pay the placement agent (i) a total cash fee equal to 7.0% of the gross proceeds of this offering, (ii) a management fee equal to 1.0% of the gross proceeds of this offering, and (iii) up to \$15,000 for fees of legal counsel. We estimate the total expenses payable by us for this offering will be approximately \$78,600, which amount includes the placement agent's fees and expenses and legal and other miscellaneous expenses.

Placement Agent Warrants

We have also agreed to issue to the placement agent or its designees, at the closing of this offering, warrants to purchase a number of our shares equal to an aggregate of 7.0% of the shares of our common stock sold in this offering (or up to an aggregate of 25,433 shares of our common stock). Such warrants will have an exercise price equal to \$1.875 per share, which is 125% of the offering price of per share set forth on the cover of this prospectus supplement, are exercisable immediately, and will expire five years from the commencement of sales in this offering.

Right of First Refusal

We have granted the placement agent, subject to certain exceptions, a right of first refusal for a period of twelve months following the closing of this offering to act as our exclusive underwriter or placement agent for any further capital raising transactions undertaken by us or any of our subsidiaries.

Tail Financing Payments

We have also agreed to pay the placement agent, subject to certain exceptions, a tail fee equal to the cash and warrant compensation in this offering, if any investor, who was contacted and brought over-the-wall by the placement agent during the term of its engagement or introduced to us by the placement agent during the term of its engagement, provides us with capital in any public or private offering or other financing or capital raising transaction during a period of twelve months following the expiration or termination of the engagement letter.

Lock-up Agreement

We have agreed with the investors, subject to certain exceptions, not to issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of common stock or their equivalents for a period of 5 days following the closing date of this offering. In addition, subject to an exception, we have agreed to not issue any securities that are subject to a price reset based on the trading prices of our common stock or upon a specified or contingent event in the future, or enter into any agreement to issue securities at a future determined price for a period of one year following the closing date of this offering.

Regulation M

The placement agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the securities sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the placement agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares of our securities by the placement agent acting as principal. Under these rules and regulations, the placement agent:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

Other Relationships

From time to time, the placement agent may provide in the future various advisory, investment and commercial banking and other services to us in the ordinary course of business, for which they have received and may continue to receive customary fees and commissions. H.C. Wainwright & Co. acted as our sales agent in connection with our at-the-market program, for which it has received compensation. H.C. Wainwright & Co. also acted as our exclusive placement agent for our private offerings of common stock and warrants in March 2020 and May 2024, our four previous registered direct offerings consummated in January 2021, February 2021 and June 2021, and a private placement of shares of our common stock and warrants consummated in February 2021 for which it received compensation. However, except as disclosed in this prospectus supplement, we have no present arrangements with the placement agent for any further services.

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 February 18, 2025, the last reported sale price per share for our common stock as reported by The Nasdaq Capital Market was \$1.95.

LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon by our counsel, DLA Piper LLP (US), Palo Alto, California. Ellenoff Grossman & Schole LLP, New York, New York, is acting as counsel for the placement agent.

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 and in the Registration Statement 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 supplement and you should not rely on that information unless that information is also in this prospectus supplement or incorporated by reference in this prospectus supplement.

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.

IMPORTANT INFORMATION INCORPORATED 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 quarter ended March 31, 2024 filed on [May 14, 2024](#);
- Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2024 filed on [August 13, 2024](#);
- Our Quarterly Report on Form 10-Q for the quarter ended September 30, 2024 filed on [November 12, 2024](#);
- Current Reports on Form 8-K filed on [January 4, 2024](#), [February 8, 2024](#), [April 8, 2024](#), [May 6, 2024](#), [May 15, 2024](#), [May 30, 2024](#), [July 29, 2024](#), [August 14, 2024](#), [September 20, 2024](#), [November 22, 2024](#), and [January 6, 2025](#); and
- The description of the Company’s common stock filed as Exhibit 4.9 “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.

363,336 Shares of Common Stock

PROSPECTUS SUPPLEMENT

H.C. Wainwright & Co.

February 18, 2025
