

As filed with the Securities and Exchange Commission on September 30, 2022

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

FORM S-1  
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)

**3842**  
(Primary Standard Industrial  
Classification Code Number)

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

**2915 Commers Drive, Suite 900  
Eagan, Minnesota 55121  
(651) 389-4800**

(Address and telephone number of registrant's principal executive offices and principal place of business)

**Bob Myers**  
**Chief Financial Officer**  
**Predictive Oncology Inc.**  
**2915 Commers Drive, Suite 900**  
**Eagan, Minnesota 55121**  
**(651) 389-4800**

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

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Approximate date of commencement of proposed sale to the public: From time to time on or after the effective date of this Registration Statement.

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, 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 post-effective amendment filed pursuant to Rule 462(d) 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.

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

Non-accelerated filer

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.

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**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.**

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The information in this prospectus is not complete and may be changed. The selling stockholders 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.

**SUBJECT TO COMPLETION - DATED September 30, 2022**

**PRELIMINARY PROSPECTUS**



**PREDICTIVE ONCOLOGY INC.**

**4,737,280 Shares**

**Common Stock**

This prospectus relates to the offer and resale from time to time by the selling stockholders named in this prospectus of up to an aggregate of 4,737,280 shares of our common stock, par value \$0.01 per share. These shares consist of (i) 3,837,280 shares of common stock issuable upon the exercise of common stock purchase warrants that were initially issued in a private placement to certain institutional and accredited investors and (ii) 900,000 shares of common stock issuable upon the exercise of placement agent warrants that were initially issued to certain designees of H.C. Wainwright & Co., LLC (“Wainwright”), as part of Wainwright’s compensation for serving as our exclusive placement agent in connection with the private placement and two concurrent registered direct offerings completed on May 18, 2022.

Our registration of the securities covered by this prospectus does not mean that the selling stockholders will offer or sell any of the shares of common stock. The selling stockholders may sell or otherwise dispose of the shares of common stock publicly or through private transactions at prevailing market prices or at negotiated prices. We provide more information about how the selling stockholders may sell their shares in the section entitled “Plan of Distribution.”

One or more of the selling stockholders may be deemed to be “underwriters” within the meaning of the Securities Act of 1933, as amended (the “Securities Act”), in connection with the resale of our common stock. We will bear all costs, expenses and fees in connection with the registration of the shares. The selling stockholders will bear all commissions and discounts, if any, attributable to their respective sales of the shares.

We will not receive any proceeds from the sale of shares of common stock by the selling stockholders. We will, however, receive the proceeds from any exercise of the warrants for cash.

Our common stock is listed on the Nasdaq Capital Market under the symbol “POAI.” On September 29, 2022, the last reported per share price of our common stock on the Nasdaq Capital Market was \$0.3641 per share.

**Investing in our common stock involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks that we have described beginning on page 11 of this prospectus under the caption “Risk Factors” and in the documents incorporated by reference into this prospectus.**

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

The date of this prospectus is \_\_\_\_\_, 2022.



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## ABOUT THIS PROSPECTUS

We urge you to read carefully this prospectus, together with the information incorporated herein by reference as described under “Incorporation of Certain Documents by Reference” before buying any of the securities offered.

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission (the “SEC”) under which the selling stockholders named herein may, from time to time, offer and sell or otherwise dispose of the securities covered by this prospectus.

A prospectus supplement may add, update or change information included in this prospectus. You should read both this prospectus and any applicable prospectus supplement together with additional information described below under the heading “Where You Can Find Additional Information.”

You should rely only on the information contained or incorporated by reference in this prospectus and any applicable prospectus supplement. Neither we nor the selling stockholders have authorized anyone to provide you with different information, and if anyone provides, or has provided you, with different or inconsistent information, you should not rely on it. We and the selling stockholders take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the securities offered hereby and only under circumstances and in jurisdictions where it is lawful to do so. This prospectus is not an offer to sell securities, and it is not soliciting an offer to buy securities, in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, any prospectus supplement or in the documents incorporated by reference herein is accurate only as of the date of the document containing the information, regardless of the time of delivery of this prospectus or any applicable prospectus supplement or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

For investors outside of the United States, neither we nor the selling stockholders have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about, and to observe any restrictions relating to, this offering and the distribution of this prospectus outside of the United States.

## INDUSTRY AND MARKET DATA

This prospectus and the information incorporated by reference herein contain market and industry statistics that are based on various sources that we believe is accurate. It is generally based on academic and other publications that are not produced for purposes of securities offerings or economic analysis. We believe the data contained in these reports or publications to be reliable as of the date of this prospectus, but there can be no assurance as to the accuracy or completeness of such information. We have not independently verified the market and industry data obtained from these sources. Forecasts and other forward-looking information obtained from these sources are subject to the same qualifications and the additional uncertainties accompanying any estimates of future market size, revenue and market acceptance of products and services.

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## THE COMPANY

*This summary contains basic information about us. You should carefully read the entire prospectus and the documents we incorporate by reference herein. Some of the statements contained in this prospectus and the documents incorporated by reference herein, 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 these forward-looking statements. References to “we,” “our,” “us,” the “Company,” or “Predictive” refer to Predictive Oncology Inc., a Delaware corporation.*

### **Business Overview**

We operate in four primary business areas: first, application of artificial intelligence (“AI”) in our precision medicine business, to provide AI-driven predictive models of tumor drug response to improve clinical outcomes for patients and to assist pharmaceutical, diagnostic, and biotech industries in the development of new personalized drugs and diagnostics; second, tumor-specific 3D cell culture models driving accurate prediction of clinical outcomes; third, contract services and research focused on solubility improvements, stability studies, and protein production, and; fourth, production of the United States Food and Drug Administration (“FDA”)-cleared STREAMWAY® System for automated, direct-to-drain medical fluid disposal and associated products

We have four reportable segments: Helomics®, zPREDICTA®, Soluble™ and Skyline®. The Helomics segment includes clinical testing and contract research services that include the application of AI. Our zPREDICTA segment specializes in organ-specific disease models that provide 3D reconstruction of human tissues accurately representing each disease state and mimicking drug response enabling accurate testing of anticancer agents. Our Soluble segment provides services using a self-contained, 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 for biologics. Our Skyline segment consists of the STREAMWAY System product sales, and our TumorGenesis® subsidiary (Research and Development) is included within corporate. Going forward, we have determined that we will focus our resources on the Helomics and zPREDICTA segments and our primary mission statements to accelerate patient-centric drug discovery to improve patient outcomes in cancer treatment, harnessing the power of AI, and to develop tumor-specific 3D cell culture models that provide accurate 3D reconstruction of human tissues representing each cancer disease state.

On November 24, 2021, we acquired zPREDICTA, Inc. (“zPREDICTA”) in a merger transaction, and at that time we identified zPREDICTA as a reportable segment. zPREDICTA’s business, which involves integration of organ-specific cellular and extracellular elements into 3D culture models for in vitro cancer drug testing, represents a unique segment in the Predictive offerings.

### **Precision Medicine Business**

Our precision medicine business, conducted in our Helomics division, is committed to improving the effectiveness of cancer therapy using our proprietary, multi-omic tumor profiling platform, one-of-a-kind database of historical tumor data, and the power of AI to build predictive models of tumor drug response.

Helomics’ mission is to improve clinical outcomes for patients by partnering with pharmaceutical, diagnostic, and academic organizations to bring innovative clinical products and technologies to the marketplace. Our Patient-centric Drug Discovery using Active Learning asset (“PeDAL”™) is a unique technology that combines our proprietary, clinically validated patient tumor cell line assay (“TruTumor”™), a vast knowledgebase of proprietary and public data together (“TumorSpace”™) with active learning - the active learning allowing the efficient exploration of compound drug responses against a large diverse patient “space”. PeDAL offers researchers the opportunity to efficiently and cost-effectively bring patient diversity much earlier in the drug discovery process. PeDAL works by iterative cycles of active-learning powered Learn-Predict-Test to guide the testing of patient-specific compound responses using the TruTumor assay and patient cell lines to build a comprehensive predictive model of patient responses to compounds. This predictive model can then be used to rank compounds by the fraction of patients of certain profiles that respond as well as the set of compounds that provide the best coverage across patients. PeDAL will be used in fee-for-service projects with pharmaceutical companies.

We believe leveraging our unique, historical database of the drug responses of over 150,000 patient tumors to build AI and data-driven multi-omic predictive models of tumor drug response and outcome will provide actionable insights critical to both new drug development and individualizing patient treatment. Through the course of over 15 years of clinical testing of the responses of patient tumors to drugs, Helomics has amassed a huge proprietary knowledgebase of 150,000 patient cases. This data has been rigorously de-identified and aggregated to build a unique, proprietary model of tumor drug response that we call TumorSpace. The TumorSpace model and its data provide *a priori* knowledge for the machine learning approaches we employ as part of the PeDAL approach.

TumorSpace model provides a significant competitive advantage to our business offerings. PeDAL's unique patient and tumor-centric AI-driven approach can rapidly and cost-effectively screen hundreds of compounds in thousands of tumor cell lines, and gain valuable information about off-target effects and deliver:

- A ranked list of drug candidates by responsiveness
- Sets of drug candidates that provide maximum patient coverage
- Biomarker profiles of patients that respond to specific drug candidates

PeDAL also can deliver drug candidates targeted at a specific patient profile as early as the hit-to-lead stage of discovery, significantly increasing the chance of clinical success, leading to a dramatic improvement in both the success, time, and cost of your oncology discovery programs. The AI-driven models will, once validated, also provide clinical decision support to help oncologists individualize treatment.

Our CRO/AI business leverages our core competence in profiling the drug response of patient tumors. Our large knowledgebase of tumor drug response and other data, together with proven AI, has created a unique capability for oncology drug discovery that allows for the highly efficient screening of drug responses from thousands of diverse, well-characterized patient primary tumor cell lines. This novel disruptive patient-centric approach is ideally suited to the early part of drug discovery (especially hit-to-lead, lead optimization, and pre-clinical), resulting in better prioritization of compounds and better coverage of patient diversity. This will dramatically improve the chances of successfully translating discoveries, resulting in lowered costs, shortened timelines, and most importantly enhanced “speed-to-patient” for new therapies.

Our CRO services business applies PeDAL to address a range of needs from discovery through clinical and translational research, to clinical trials and diagnostic development and validation as noted below:

#### Research

- Biomarker discovery
- Drug discovery
- Drug-repurposing

#### Development

- Patient enrichment & selection for trials
- Clinical trial optimization
- Adaptive trials

#### Clinical Decision Support

- Patient stratification
- Treatment selection

We believe this market segment has significant growth potential and we believe we are differentiated from traditional CRO's and other precision medicine and AI companies through these unique assets:

- Clinically validated TruTumor platform;
- TumorSpace model of over 150,000 tumor cases;
- Experienced AI team and AI/Core® platform;
- Ability to access outcome data going back over ten years for over 120,000 of the tumor cases in our database.



Precision medicine is an emerging approach for disease treatment and prevention that considers individual variability in genes, disease, environment, and lifestyle for each case to develop effective therapies. This approach allows doctors and researchers to predict more accurately which treatment, dose, and therapeutic regimen could provide the best possible outcome.

Precision medicine, precisely targeting drugs based on the genomic profile of the patient, has become the aspiration for cancer therapy. Over the past several decades, researchers have identified molecular patterns that are useful in defining the prognosis of a given cancer, determining the appropriate treatments, and designing targeted treatments to address specific molecular alterations. The objective of this precision oncology is to develop treatments tailored to the genetic changes in each person's cancer, intended to improve the effectiveness of the therapeutic regimen, and minimize the treatment's effects on healthy cells. However, for a majority of patients the reality is that while many mutations in the patient's tumor can be identified most are not actionable with current protocols, due to a lack of research regarding which mutations in a tumor confer a sensitivity to a particular drug. As a result, the impact of targeted therapies is low, and uptake in clinical practice is inconsistent.

There is now a growing realization that genomics alone will not be enough to achieve the promise of personalized therapeutics, especially for cancer. A multi-omic approach (e.g., assessing the genome, transcriptome, epigenome, proteome, responseome, and microbiome) provides researchers and clinicians the comprehensive information necessary for new drug development and individualized therapy. Comparatively, the multi-omic approach provides a three-dimensional, 360-degree view of the cancer, while genomics alone is just a flat, one-dimensional view. However, multi-omic data is difficult to access quickly as it is both costly and time consuming to initiate prospective data collection, and few comprehensive, multi-omic datasets exist, especially specific to cancer. Our Helomics TumorSpace database addresses this need.

### *Clinical Testing*

Via our Helomics subsidiary, we offer a group of clinically relevant, cancer-related tumor profiling and biomarker tests for gynecological cancers that determine how likely the patient is to respond to various types of chemotherapy and which therapies might be indicated by relevant tumor biomarkers.

Clinical testing is comprised of Tumor Drug Response Testing (formerly ChemoFx) and Genomic Profiling (formerly BioSpeciFx) tests. The Tumor Drug Response Testing determines how a patient's tumor specimen responds to a panel of various chemotherapy drugs, while the Genomic Profiling evaluates the expression of specific genes, or biomarkers, in the patient's tumor. Our proprietary TruTumor tumor platform provides us with the ability to work with actual live tumor cells to study the unique biology of the patient's tumor in order to understand how the patient responds to treatment.

Testing involves obtaining tumor tissue during biopsy or surgery which is then sent to our Clinical Laboratory Improvement Amendments ("CLIA") certified laboratory using a special collection kit. Tumor Drug Response Testing is a fresh tissue platform that uses the patient's own live tumor cells to help physicians identify effective treatment options for each gynecologic cancer patient.

Genomic Profiling offers a select group of clinically relevant protein expression and genetic mutation tests associated with drug response and disease prognosis. Physicians can select biomarkers for testing from carefully chosen panels of relevant tests, intuitively organized by cancer pathway and tumor type. Results for these tests are presented in a clear, easy to understand format, including summaries of the clinical relevance of each marker.

### *Business Strategy for Precision Medicine Business*

We are a data and AI-driven discovery services company that provides AI-driven predictive models of tumor drug response to improve clinical outcomes for patients by leveraging our two primary unique assets:

- TruTumor - a clinically validated tumor-profiling platform that can generate drug response profiles and other multi-omic data. Over \$200 million has been invested in this platform and was clinically validated in ovarian cancer.
- TumorSpace model contains data on the drug response profiles across 131 cancer types over 10+ years of clinical testing.

Over 38,000 of the more than 150,000 clinically validated cases in our TumorSpace database are specific to ovarian cancer. The data in TumorSpace is highly differentiated, having both drug response data, biomarkers, and access to historical outcome data from those patient samples. We intend to generate additional data (genomics and transcriptomics) from these tumor samples to deliver a multi-omic approach to the pharmaceutical industry.

Through our Helomics subsidiary, we will utilize both this historical data and the TumorSpace platform to build AI-driven predictive models of tumor drug response and outcome. Once validated, we will commercialize these AI-driven predictive models in revenue generating service projects with pharmaceutical, biotech, and diagnostic companies.

A key part of our commercialization strategy is the understanding that our AI-driven models of tumor drug response serve a key unmet need of pharmaceutical, diagnostic, and biotech industries for actionable multi-omic insights on cancer. In collaboration with these companies, using the predictive models, we will accelerate the search for more individualized and effective cancer treatments, through revenue generating projects in biomarker discovery, drug screening, drug repurposing, and clinical trials.

Our commercial strategy has identified a portfolio of revenue generating project types that leverage the predictive models, our AI expertise, PeDAL tumor profiling, and CLIA laboratory to provide custom solutions utilizing our full array of assets and expertise.

The Cancer Quest 2020 initiative focused initially on ovarian cancer, which is where we have the most expertise, samples, data, and access to outcomes. However, we intend to expand the initiative to include cancers of the lung, breast, colon, and prostate, and will actively seek partners to assist in that effort.

We completed our Discovery 21 campaign, the proof of concept for PeDAL, which incorporates CoRE™, our active machine learning program, with tumor profile data and human tumor samples, to efficiently determine the most effective drug treatment for a specific cancer type. With each iteration of PeDAL, the program learns, predicts, and then directs the most informative wet lab experimentation, while building the predictive model.

Discovery 21 demonstrated that a predictive model was built in an efficient manner using PeDAL and that the model revealed drug response patterns that provide insight into the treatment of ovarian cancer. This was followed by a validation round, with results demonstrating the accuracy of the model that predicted drug response. Within the clinical sector, we will be able to utilize these predictive models (once validated) for new clinical decision support tools for individualizing therapy for patients with cancer.

These clinical decision support tools are a longer revenue horizon than the fee-for-service research projects with pharmaceutical companies but, importantly, will provide a steady stream of additional data generation to refine the predictive models for both clinical and research applications.

#### **zPREDICTA**

zPREDICTA develops tumor-specific in vitro models for oncology drug discovery and research by biopharmaceutical companies and other clients and partners. zPREDICTA's 3D product models accelerate the drug development process for its clients and partners by leveraging the expertise in carcinogenesis, metastasis and the tumor microenvironment. It develops complex in vitro models that recapitulate the physiological environment of human tissue.

From target discovery and lead optimization to preclinical evaluation of efficacy and toxicity, the objective is to develop the tools necessary to accurately identify compounds that will have the highest probability of improving human health. Product offerings include preclinical testing services based on our proprietary models directly to clients in the biopharmaceutical industry.

zPREDICTA has expertise in creating human, disease-specific tissue microenvironments for testing drug efficacy and safety. Unlike other platforms, the patented 3D models utilize proprietary organ-specific extracellular matrix formulations that match the in vivo milieu of the organ of interest. These models reconstruct both cellular and extracellular compartments of each tissue, which is especially essential for testing of immuno-oncology agents.

zPREDICTA technology demonstrates high clinical relevance, enabling its pharma clients to manage pipeline attrition more efficiently by identifying drugs that are effective in patients, from the hundreds, and often thousands, of compounds in development. The tumor-specific models are used by a number of biopharmaceutical companies to evaluate the efficacy and toxicity of their therapeutic pipelines. Our models replicate the extracellular matrix (“ECM”) of individual organs and disease-specific soluble microenvironment mimicking the biology of human disease, and as such, demonstrate high correlation with clinical response.

The zPREDICTA 3D tumor-specific models incorporate tissue-specific extracellular matrices and tumor-specific medium supplements allowing for a true reconstruction of tumor microenvironment. Our approach is compatible with multiple classes of immuno-oncology agents from naked antibodies and antibody-drug conjugates, to bi- and tri-specific compounds, and CAR-T cells. The organ-specific disease models provide 3D reconstruction of human tissues accurately representing each disease state and mimicking drug response.

Our platform incorporates both cellular and extracellular elements of tissue microenvironment in an organ- and disease-specific manner.

#### Extracellular components

- extracellular matrix
- soluble factors (cytokines, etc.)

#### Cell-cell interactions

- tumor-tumor interactions
- tumor-stroma interactions

Our platform is designed to evaluate drug candidates and drug combinations within the native microenvironment of human tissues. Our technology is a patient-derived 3D culture platform that recreates the complex human organ microenvironment thereby preserving the critical interactions between a tumor and its surroundings. Our platform supports long-term survival and proliferation of malignant and non-malignant cellular components of tissues. This includes tumor cells, stroma, and immune components. Anticancer cancer compounds tested in our models exhibit high correlation with clinical response when comparing treatment outcomes in the clinic with cellular behavior in response to the therapeutic regimen. Our organ-specific technology is compatible with multiple drug classes, including small molecules, antibodies, antibody-drug conjugates, immunomodulatory agents, CAR-T cells, etc. Our platform is fully customizable to the tumor and tissue of interest. It is compatible with multiple cell types, drug classes, and downstream analysis methods.

Applications include providing efficacy screening of anticancer compounds, evaluation of mechanisms of drug resistance, identification of new drug combinations, rescue of failed drug candidates, assessment of off-target toxicity, target discovery and biomarker discovery.

#### **Soluble Biotech**

Our subsidiary, Soluble Biotech Inc. (“Soluble”), focuses on contract services and research for biopharmaceutical company clients and academic collaborators, focused on solubility improvements, stability studies, and protein production. Specifically, Soluble provides optimized FDA-approved formulations for vaccines, antibodies, and other protein therapeutics in a faster and lower cost basis to its customers. In addition, Soluble enables protein degradation studies, which is a new and, based on current projections, potentially substantial line of business for the Company.

The primary assets of Soluble are our automated High Throughput Self-Interaction Chromatography (HSC™). HSC is a self-contained, automated system that conducts high-throughput, self-interaction chromatography screens on excipients previously approved by the FDA for protein formulations. Our technology measures second virial coefficient (B22 value) of protein-protein interactions to identify excipients that promote protein solubility in solutions. The data generated from HSC screens are analyzed by a proprietary predictive algorithm to identify the optimal combination(s) of buffers, pH, and excipients, resulting in increased solubility and physical stability of proteins. Several of our clients have seen ten-fold and hundred-fold increases in their protein's solubility while maintaining physical stability. For biopharmaceutical clients this means faster development times and quicker progression of molecules into the clinic. For academic collaborators, this means further progression of biochemical & biology studies necessary to advance fundamental research in areas of unmet medical need.

In addition, Soluble provides comprehensive protein stability analysis. Analysis via time-dependent shelf-life studies and forced degradation studies designed to quickly determine which of the previously FDA approved additives that will improve the solubility and stability of proteins in solutions. Services include pre-formulation development, stability assessment, and biophysical characterization which evaluate variables including pH, temperature, humidity, light, oxidizing agents, and mechanical stress to determine the most promising additives, formulation of B22 values and confirmation on conformation stability. We provide clients with a list of the most promising additives from a set of over 40 different additives that can increase the solubility and stability of protein formulations.

Soluble also offers protein solubility kits that allow rapid identification of soluble formulations. We provide four different kits to fulfill customer solubility requirements. The kits are in 96-well format and provide the tools and methods to compare relative solubility across 88 common formulations (with 8 controls). Soluble kits utilize a simple mix and spin protocol that quickly evaluates aggregation behavior as a function of pH, salt, and additives costing significantly less than if manually determined. In addition, we provide innovative technologies for bacterial detection and removal in therapeutic proteins that continue to be a significant issue in the pharmaceutical field.

In addition, Soluble supplies proprietary technologies for bacterial endotoxin detection and removal. Endotoxin is an inherent byproduct of bacterial expression of therapeutic proteins. However, therapeutic proteins are required to have extremely low endotoxin levels. Soluble provides a product to remove endotoxin that works through multiple molecular interactions for efficient removal over a wide range of buffer conditions with minimal product loss. The detection of endotoxin can also be adversely affected by the protein therapeutic itself. To address this, Soluble provides sample treatment kits to minimize detection interference while using standard detection assays.

### **Skyline Medical – The STREAMWAY System**

Sold through our subsidiary, Skyline Medical Inc. (“Skyline Medical”), the STREAMWAY System virtually eliminates staff exposure to blood, irrigation fluid, and other potentially infectious fluids found in the healthcare environment. Antiquated manual fluid handling methods that require hand carrying and emptying filled fluid canisters present both an exposure risk and potential liability. Skyline Medical's STREAMWAY System fully automates the collection, measurement, and disposal of waste fluids and is designed to: (i) reduce overhead costs to hospitals and surgical centers; (ii) improve compliance with the Occupational Safety and Health Administration (“OSHA”) and other regulatory agency safety guidelines; (iii) improve efficiency in the operating room and radiology and endoscopy departments, thereby leading to greater profitability; and (iv) provide greater environmental stewardship by helping to eliminate the approximately 50 million potentially disease-infected canisters that go into landfills each year in the United States. We continue to operate the Skyline Medical business by continually improving our strategic opportunities, while focusing our resources on our precision medicine business.

### *Industry and Market Background and Analysis - 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 in particular, 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 from 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 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 believe that our virtually hands free direct-to-drain technology (1) significantly reduces the risk of healthcare worker exposure to these infectious fluids by replacing canisters, (2) further reduces the risk of worker exposure when compared to powered canister technology that requires transport to and from the operating room, (3) reduces the cost per procedure for handling these fluids, and (4) enhances the surgical team's ability to collect data to accurately assess the patient's status during and after procedures. In addition to the traditional canister method of waste fluid disposal, several other powered medical devices have been developed that address some of the deficiencies described above. Most of these competing products continue to utilize some variation on the existing canister technology, and while not directly addressing the canister, most have been successful in eliminating the need for an expensive gel and its associated handling and disposal costs. Our existing competitors with products already on the market have a clear competitive advantage over us in terms of brand recognition and market exposure. In addition, many of our competitors have extensive marketing and development budgets that could overpower an emerging growth company like ours.

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.

#### *STREAMWAY System Product Sales*

Our Skyline Medical division consists primarily of sales of the STREAMWAY System, as well as sales of the proprietary cleaning fluid and filters for use with the STREAMWAY System. We manufacture an environmentally conscious system for the collection and disposal of infectious fluids resulting from surgical and other medical procedures. We have been granted patents for the STREAMWAY System in the United States, Canada, and Europe. We distribute our products to medical facilities where bodily and irrigation fluids produced during medical procedures must be contained, measured, documented, and disposed. Our products minimize the exposure potential to the healthcare workers who handle such fluids.

The STREAMWAY System is a wall-mounted fully automated system that disposes of an unlimited amount of suction fluid providing uninterrupted performance for physicians while virtually eliminating healthcare workers' exposure to potentially infectious fluids collected during surgical and other patient procedures. We also manufacture and sell two disposable products required for the operation of the STREAMWAY System: a bifurcated dual port procedure filter with tissue trap and a single use bottle of cleaning solution. Both items are utilized on a single procedure basis and must be discarded after use. The STREAMWAY disposables are a critical component of our business model. Recurring revenues from the sale of the disposables are expected to be significantly higher over time than the revenues from the initial sale of the unit. We have exclusive distribution rights to the disposable solution.

#### **TumorGenesis**

Our subsidiary TumorGenesis is our research and development arm for Helomics and zPREDICTA. TumorGenesis also specializes in media that help cancer cells grow outside the patient's body and retain their DNA/RNA and proteomic signatures. With this tool, researchers are able to expand and study cancer cell types inherent in blood tumors and organ systems of all mammals, including humans.

## **May 2022 Concurrent Registered Direct Offerings and Private Placement**

On May 18, 2022, we completed a registered direct offering in which we issued and sold an aggregate of 3,837,280 shares of our common stock, at a purchase price of \$0.60 per share (“First Offering”). In addition, in a concurrent private placement (“Private Placement”), we sold to the same investors unregistered warrants to purchase up to an aggregate of 3,837,280 shares of our common stock at an exercise price of \$0.70 per share (the “May 2022 Warrants”). The May 2022 Warrants will become exercisable on November 18, 2022 and will expire on November 18, 2027.

On May 18, 2022, we also completed a concurrent registered direct offering in which we issued and sold an aggregate of 8,162,720 shares of our common stock, at a purchase price of \$0.60 per share (“Second Offering”). In connection with the Second Offering, we entered into a warrant amendment agreement (the “Warrant Amendment Agreement”) with each of the purchasers in the Second Offering. Under the Warrant Amendment Agreement, we agreed to amend certain existing warrants to purchase up to 16,325,435 shares of common stock that were previously issued in 2020 and 2021 to the purchasers in the Second Offering, with exercise prices ranging from \$1.00 to \$2.00 per share (the “Existing Warrants”), as follows: (i) lower the exercise price of the Existing Warrants to \$0.70 per share, (ii) provide that the Existing Warrants, as amended, will not be exercisable until six months following the closing date of the Second Offering, and (iii) extend the original expiration date of the Existing Warrant by five and one-half years following the close of the Second Offering. We refer to the First Offering, Second Offering and the Private Placement collectively as the “May 2022 Offerings”.

We received aggregate net proceeds of approximately \$6.5 million, after deducting placement agent fees and other offering expenses payable by us, from the First Offering and Second Offering.

Wainwright served as our exclusive placement agent in connection with the May 2022 Offerings. We paid Wainwright a cash fee equal to 7.5% of the aggregate gross proceeds from the sale of the shares in the First Offering and Second Offering; a management fee equal to 1.0% of the aggregate gross proceeds from the sale of the shares in the First Offering and Second Offering; \$65,000 for non-accountable expenses; and \$15,950 for clearing fees. In addition, we issued to designees of Wainwright as compensation warrants to purchase up to an aggregate of 900,000 shares of our common stock (the “Placement Agent Warrants”), equal to 7.5% of the aggregate number shares of our common stock sold in the First Offering and Second Offering. The Placement Agent Warrants have an exercise price equal to \$0.75 per share, which is 125% of the offering price per share in the First Offering and Second Offering, will become exercisable on November 18, 2022 and will expire on May 16, 2027. We refer to the May 2022 Warrants and the Placement Agent Warrants collectively as the “Warrants.”

## **Corporate Information**

We were originally incorporated 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.

Our address is 2915 Commers Drive, Suite 900, Eagan, Minnesota 55121. Our telephone number is (651) 389-4800, and our website address is [www.predictive-oncology.com](http://www.predictive-oncology.com). The information contained on, or that can be accessed through, our website is not part of this prospectus.

## OFFERING SUMMARY

Common stock that may be offered by selling stockholders	4,737,280 shares, which are comprised of (i) 3,837,280 shares of common stock issuable upon the exercise of the May 2022 Warrants, and (ii) 900,000 shares of stock issuable upon the exercise of the Placement Agent Warrants.
Use of proceeds	The selling stockholders will receive all of the net proceeds from the sale of the shares offered pursuant to this prospectus. We will not receive any of the proceeds from these sales. However, we will receive proceeds from the exercise of the Warrants if exercised for cash.
Plan of Distribution	The selling stockholders may sell or otherwise dispose the shares of our common stock covered by this prospectus in a number of different ways and at varying prices. For further information, see “Plan of Distribution” beginning on page 17.
Risk Factors	You should read the “Risk Factors” section of this prospectus and the other information contained or incorporated by reference in this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.

## RISK FACTORS

An investment in our securities involves a number of risks. Before deciding to invest in our securities, in addition to the risks and uncertainties discussed below under “Cautionary Note Regarding Forward-Looking Statements,” you should carefully consider the specific risks described under the section captioned “Risk Factors” in our most recent Annual Report on Form 10-K, as updated by our subsequent quarterly and other reports we file with the SEC. If any of these risks actually occur, our business, financial condition, results of operations or cash flow could be materially 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 and uncertainties described in the documents referenced above are not the only ones that we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may become material and adversely affect our business.

### CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference may contain “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We have based these forward-looking statements on our current expectations and beliefs about future developments or events and their potential effects on us. Forward-looking statements generally relate to future events or our future financial or operating performance. 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 forward-looking statements are subject to known and unknown risks, uncertainties and assumptions about us that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Important factors that may cause such differences include:

- Our history of operating losses;
- Current negative operating cash flows;
- Our capital needs to accomplish our goals, and the adequacy of available funds, including our ability to access the capital markets, our ability to obtain additional equity funding from current or new stockholders to fund our business operations and/or future growth plans, and the dilutive effect that raising equity capital would have on the relative equity ownership of our existing investors;
- Risks related to recent and future acquisitions, including the possibility of further impairment of goodwill and 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;
- Risk related to the protection of our intellectual property or any future legal claims relating to 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 product is 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 will continue to be materially and adversely affected by the COVID-19 pandemic, which has impacted on a significant supplier; has resulted in delayed production and less efficiency; and has impacted on our sales efforts, accounts receivable, and terms demanded by suppliers; and may impact financing transactions;
- Our ability to maintain effective control over financial reporting; and
- Other specific risks that may be alluded to in this prospectus.

We discuss many of these and other risks and uncertainties in greater detail under the heading “Risk Factors” in our most recent Annual Report on Form 10-K, as updated in our subsequent Quarterly Reports on Form 10-Q. Given these risks and uncertainties, you should not place undue reliance on these forward-looking statements. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

You should read this prospectus, as well as the documents incorporated by reference into this prospectus, completely and with the understanding that our actual future results, performance and achievements may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

#### **USE OF PROCEEDS**

We will not receive any proceeds from the sale of shares of our common stock by the selling stockholders identified in this prospectus. However, we will receive proceeds from the exercise of the Warrants for cash. We expect to use these proceeds for working capital purposes. We will have broad discretion over the use of proceeds from the exercise of the Warrants. There is no assurance that the holders of the Warrants will elect to exercise any or all of such Warrants. The Warrants contain a “cashless exercise” feature that allows the holders to exercise any of such Warrants without making a cash payment to us if there is not an effective registration statement covering the resale of the shares issuable upon exercise of such Warrants.

#### **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. As of September 20, 2022, there were 78,388,875 shares of common stock outstanding and 79,246 shares of Series B Convertible Preferred Stock outstanding. All of the outstanding shares of our capital stock are fully paid and nonassessable.

## **Common Stock**

*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.

## **Preferred Stock**

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.

The Series B Convertible Preferred Stock is convertible into common stock at the option of its holders on a 1:1 basis, subject to a 4.99% beneficial ownership blocker.

## **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 Equiniti.

#### **Listing**

The shares of our common stock are listed on The Nasdaq Capital Market under the symbol “POAI.”

## SELLING STOCKHOLDERS

The selling stockholders acquired the Warrants from us in a private offering in connection with the completion of the First Offering and Second Offering on May 18, 2022, pursuant to an exemption from the registration requirements under Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder. We agreed to file a registration statement with the SEC for the purposes of registering for resale from time to time the shares of common stock that may be issued upon exercise of the May 2022 Warrants and Placement Agent Warrants. For additional information regarding the issuances of the Warrants, see “The Company - May 2022 Concurrent Direct Offerings and Private Placement.”

The selling stockholders have not had any position or office, or other material relationship with us or any of our affiliates over the past three years, except as described in the table below.

The table below lists the selling stockholders and other information regarding the ownership of the shares of common stock offered hereby by the selling stockholders. The second column lists the number of shares of common stock owned by each selling stockholder as of September 20, 2022, assuming exercise of the May 2022 Warrants or Placement Agent Warrants held by such selling stockholder on that date without regard to any limitations on exercises. The third column lists the shares of common stock being offered by this prospectus by the selling stockholders. The fourth column assumes the sale of all of the shares offered by the selling stockholder pursuant to this prospectus.

The May 2022 Warrants and Placement Agent Warrants are not exercisable until November 18, 2022. In addition, a selling stockholder will not have the right to exercise its May 2022 Warrants or Placement Agent Warrants to the extent such exercise would cause the selling stockholder, together with its affiliates, to beneficially own in excess of 4.99% or 9.99%, as applicable, of the then outstanding common stock following such exercise, excluding for purposes of such determination common stock issuable upon exercise of the May 2022 Warrants or Placement Agent Warrants which have not been exercised. The number of shares in the second and fourth columns of the table do not reflect these limitations. The selling stockholders may sell all, some or none of their shares in this offering. See “Plan of Distribution.”

We do not know how long the selling stockholders will hold the Warrants, whether any will exercise the Warrants, and upon such exercise, how long such selling stockholders will hold the shares of common stock before selling them. We currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale of any of the shares.

Except as indicated by the footnotes below, we believe, based on the information furnished to us, that each of the selling stockholders has sole voting and investment power with respect to all shares of common stock that the selling stockholder owns, subject to applicable community property laws. Except as otherwise described below, based on the information provided to us by the selling stockholders, the selling stockholders are not a broker-dealer or an affiliate of a broker-dealer.

Name of Selling Stockholder	Shares Beneficially Owned Before Offering	Number of Shares Being Offered	Shares Beneficially Owned After Offering	
			Number of Shares	Percentage of Class <sup>(1)</sup>
Armistice Capital Master Fund <sup>(2)</sup>	12,546,287	3,050,000(3)	9,496,287	10.81(4)%
Bigger Capital Fund, LP <sup>(5)</sup>	890,000	250,000(6)	640,000	*
District 2 Capital Fund LP <sup>(5)</sup>	890,000	250,000(7)	640,000	*
Intracoastal Capital, LLC <sup>(8)</sup>	4,110,026	287,280(9)	3,822,746	4.67%
Michael Vasinkevich <sup>(10)</sup>	2,263,653	577,125(11)	1,686,528	2.11%
Noam Rubinstein <sup>(10)</sup>	1,204,301	283,500(12)	920,801	1.16%
Craig Schwabe <sup>(10)</sup>	119,792	30,375(13)	89,417	*
Charles Worthman <sup>(10)</sup>	38,231	9,000(14)	29,231	*

\* Less than 1%

- (1) Based on 78,388,875 shares of our common stock issued and outstanding as of September 20, 2022. In computing the percentage ownership of a selling stockholder, we deemed outstanding shares of common stock subject to Warrants held by that selling stockholder that are exercisable within 60 days of September 20, 2022. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other selling stockholder.
- (2) The shares are directly held by Armistice Capital Master Fund Ltd. (“Master Fund”), a Cayman Islands exempted company, and may be deemed to be indirectly beneficially owned by (i) Armistice Capital, LLC (“Armistice”), as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice Capital. Armistice and Steven Boyd disclaim beneficial ownership of the reported securities except to the extent of their respective pecuniary interest therein.
- (3) Represents 3,050,000 shares of common stock issuable upon the exercise of the May 2022 Warrants that will become exercisable on November 18, 2022. Does not take into account beneficial ownership limitations preventing Master Fund from exercising any of the May 2022 Warrants to the extent following such exercise its beneficial ownership would exceed 4.99%.
- (4) Does not take into account beneficial ownership limitations preventing Master Fund from exercising any of its warrants to the extent following such exercise its beneficial ownership would exceed 4.99%.
- (5) Bigger Capital Fund GP, LLC (“Bigger GP”) is a general partner of Bigger Capital Fund, LP (“Bigger Capital”) and District 2 Capital LP (“District 2”) is the investment manager of District 2 Capital Fund LP (“District 2 CF”). Michael Bigger is the managing member of Bigger GP and District 2 and District 2 Holdings LLC (“District 2 Holdings”), which is the managing member of District 2 GP LLC (“District 2 GP”), the general partner of District 2 CF. Therefore, Mr. Bigger, District 2, District 2 Holdings and District 2 CF may be deemed to be the beneficial owner, and have the shared power to dispose of or direct the disposition, of the shares reported as beneficially owned by District 2 CF and Mr. Bigger and Bigger GP may be deemed to be the beneficial owner, and have the shared power to dispose of or direct the disposition, of the shares reported as beneficially owned by Bigger Capital and District 2 CF.
- (6) Represents 250,000 shares of common stock issuable upon the exercise of the May 2022 Warrants that will become exercisable on November 18, 2022. The May 2022 Warrants are only exercisable to the extent that Bigger Capital and its affiliates beneficially own no more than 4.99% of the outstanding common stock after exercise.
- (7) Represents 250,000 shares of common stock issuable upon the exercise of the May 2022 Warrants that will become exercisable on November 18, 2022. The May 2022 Warrants are only exercisable to the extent that District 2 CF and its affiliates beneficially own no more than 4.99% of the outstanding common stock after exercise.
- (8) Mitchell P. Kopin (“Mr. Kopin”) and Daniel B. Asher (“Mr. Asher”), each of whom are managers of Intracoastal Capital, LLC (“Intracoastal”), have shared voting control and investment discretion over the shares held by Intracoastal. As a result, each of Mr. Kopin and Mr. Asher may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities reported herein that are held by Intracoastal.
- (9) Represents 287,280 shares of common stock offered issuable upon the exercise of the May 2022 Warrants that will become exercisable on November 18, 2022. The May 2022 Warrants are only exercisable to the extent that Intracoastal and its affiliates beneficially own no more than 9.99% of the outstanding common stock after exercise.
- (10) The selling stockholder is associated with Wainwright, a registered broker-dealer and the placement agent for the May 2022 Offerings, and, as a designee of Wainwright, received Placement Agent Warrants in the transactions described under “The Company – May 2022 Concurrent Registered Direct Offerings and Private Placement.”
- (11) Represents 577,125 shares of common stock issuable upon the exercise of the Placement Agent Warrants that will become exercisable on November 18, 2022. The Placement Agent Warrants are only exercisable to the extent that Michael Vasinkevich and his affiliates beneficially own no more than 4.99% of the outstanding common stock after exercise.
- (12) Represents 283,500 shares of common stock issuable upon the exercise of the May 2022 Warrants that will become exercisable on November 18, 2022. The May 2022 Warrants are only exercisable to the extent that Noam Rubinstein and his affiliates beneficially own no more than 4.99% of the outstanding common stock after exercise.
- (13) Represents 30,375 shares of common stock issuable upon the exercise of the May 2022 Warrants that will become exercisable on November 18, 2022. The May 2022 Warrants are only exercisable to the extent that Craig Schwabe and his affiliates beneficially own no more than 4.99% of the outstanding common stock after exercise.
- (14) Represents 9,000 shares of common stock issuable upon the exercise of the May 2022 Warrants that will become exercisable on November 18, 2022. The May 2022 Warrants are only exercisable to the extent that Charles Worthman and his affiliates beneficially own no more than 4.99% of the outstanding common stock after exercise.

## PLAN OF DISTRIBUTION

We are registering the resale by the selling stockholders or their permitted transferees of up to 4,737,280 shares of common stock that are issuable upon the exercise of the Warrants. The selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. We will pay all fees and expenses incident to the registration of the securities to be offered and sold pursuant to this prospectus. The selling stockholders will bear all commissions and discounts, if any, attributable to their sale of securities.

The selling stockholders or their permitted transferees may, from time to time, sell any or all of shares of our common stock covered hereby on the Nasdaq stock market, or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed prices, at prevailing market prices at the time of sale, at varying prices or at negotiated prices. The selling stockholders may use any one or more of the following methods when selling securities:

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

The selling stockholders may also sell securities under Rule 144 under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121. Discounts, concessions, commissions and similar selling expenses, if any, that can be attributed to the sale of common stock will be paid by the selling stockholders and/or the purchasers.

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

The selling stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

We agreed to keep this prospectus effective until no selling stockholder that was a purchaser in the First Offering owns any May 2022 Warrants or shares of common stock issuable upon exercise of the May 2022 Warrants.

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

#### **LEGAL MATTERS**

The validity of any securities offered from time to time by this prospectus will be passed upon by Maslon LLP, Minneapolis, Minnesota.

#### **EXPERTS**

Baker Tilly US, LLP, our independent registered public accounting firm, has audited our consolidated financial statements as of and for the years ended December 31, 2021 and 2020 included in our Annual Report on Form 10-K for the year ended December 31, 2021, which are incorporated by reference into this prospectus and elsewhere in the registration statement, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

#### **WHERE YOU CAN FIND MORE INFORMATION**

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the securities we are offering under this prospectus. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including us. The address of the SEC website is [www.sec.gov](http://www.sec.gov).

We maintain a website at [www.predictive-oncology.com](http://www.predictive-oncology.com). Information contained in, or accessible through, our 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.

#### **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 documents incorporated by reference into this prospectus contain important information that you should read about us. The following documents are incorporated by reference into this prospectus:

We are allowed to incorporate by reference information contained in documents that we file with the SEC. This means that we can disclose important information to you by referring you to those documents and that the information in this prospectus is not complete and you should read the information incorporated by reference for more detail. We incorporate by reference in two ways. First, we list certain documents that we have already filed with the SEC. The information in these documents is considered part of this prospectus. Second, the information in documents that we file in the future will update and supersede the current information in, and incorporated by reference in, this prospectus until we file a post-effective amendment that indicates the termination of the offering of the common stock made by this prospectus.

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), including those made after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2021 filed on March 31, 2022;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022 filed on May 12, 2022;
- Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 filed on August 11, 2022;
- Our Current Reports on Form 8-K filed on January 4, 2022, February 18, 2022, March 31, 2022, May 12, 2022, May 13, 2022, May 18, 2022, May 23, 2022, July 26, 2022, August 11, 2022, September 14, 2022 and September 16, 2022;
- Our Current Report on Form 8-K/A filed on February 10, 2022; and
- The description of the Company's common stock under the caption "Description of Predictive Capital Stock – Common Stock" in the Company's Amendment No 2 to Registration Statement on Form S-4 as filed with the SEC on January 24, 2019, as amended by the description filed as Exhibit 4.14 to the Company's Annual Report on Form 10-K on March 31, 2022.

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. 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  
2915 Commers Drive, Suite 900  
Eagan, Minnesota 55121  
(651) 389-4800

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**PREDICTIVE ONCOLOGY INC.**

**4,737,280 Shares**

**Common Stock**

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PROSPECTUS

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[•], 2022

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## PART II

### INFORMATION NOT REQUIRED IN PROSPECTUS

#### Item 13. 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 and the Nasdaq listing fee.

Securities and Exchange Commission registration fee	\$	166.44
NASDAQ listing fee	\$	5,000.00
Printing and engraving expenses	\$	3,000.00
Legal fees and expenses	\$	25,000.00
Accounting fees and expenses	\$	10,000.00
Miscellaneous	\$	1,833.56
Total	\$	45,000.00

#### Item 14. 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 15. Recent Sales of Unregistered Securities.**

The Registrant has issued the following securities that were not registered under the Securities Act with the past three years:

(1) In June through September 2019, we issued and sold to certain accredited investors 258 shares of Series E convertible preferred stock at a purchase price of \$10,000 per share, pursuant to a securities purchase agreement. We agreed to pay to Dawson James Securities, Inc., as placement agent, a commission of 8% of the gross proceeds raised from the sale of the Series E convertible preferred stock and warrants to purchase our common stock on a cashless basis based on 5% warrant coverage on the Series E convertible preferred stock sold in the offering. We also agreed to reimburse the placement agent for legal fees equal to \$25,000 plus \$4,000 per closing, plus other reasonable out-of-pocket expenses not to exceed \$5,000.

The Series E convertible preferred stock and the warrants were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and Rule 506 promulgated thereunder.

(2) On September 27, 2019, we issued to Oasis Capital, LLC (i) a secured promissory note in the original principal amount of \$847,500 that accrues interest at a rate of 8% per annum (with six months of interest guaranteed) and that matures six months from September 27, 2019 ("Oasis Note"), and (ii) an aggregate of 8,857 shares of our common stock plus a warrant to acquire up to 68,237 shares of the our common stock at an exercise price of \$6.21 per share, in exchange for a cash investment of \$700,000, pursuant to a securities purchase agreement.

The issuance of the forgoing securities was not registered under the Securities Act in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(3) On September 27, 2019, we issued 15,000 shares of common stock to L2 Capital, LLC pursuant to an amendment to the Amended and Restated Senior Secured Promissory Note dated September 28, 2018 and amended restated as of February 7, 2019 (“L2 Note”), under which, among other things, L2 Capital, LLC waived its rights under the L2 Note to have the L2 Note repaid from the proceeds of any financing consummated by us.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(4) On October 24, 2019, we issued to Oasis Capital, LLC 104,651 shares of our common stock having an aggregate market value of \$450,000, as consideration for its commitment to purchase shares of our common stock having an aggregate value of up to \$15.0 million over a period of three years, pursuant to that certain Equity Purchase Agreement dated October 24, 2019.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(5) On November 12, 2019, we issued 10,356 shares of common stock valued at \$34,923 in payment for investor relations services.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(6) On December 12, 2019, we issued 15,000 shares of common stock to L2 Capital, LLC pursuant to a second amendment to the L2 Note, under which, among other things, L2 Capital, LLC waived its rights under the L2 Note to have the L2 Note repaid from the proceeds of any financing consummated by us.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(7) On January 31, 2020, we issued to Dr. Carl Schwartz, our CEO and director at that time, (i) a promissory note in the original principal amount of \$2,115,000 that bears interest at 12% per annum and matures on September 30, 2020 (“Schwartz Note”) and (ii) 50,000 shares of our common stock, in exchange for, among other things, cancellation by Dr. Schwartz of two existing promissory notes with a total outstanding amount of \$1,935,000 and warrants to purchase up to an aggregate of 97,313 shares of our common stock at exercise prices ranging from \$7.04 to \$11.88 per share, pursuant to an Exchange Agreement dated January 31, 2020.

The issuance of the forgoing securities was not registered under the Securities Act in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(8) On February 5, 2020, we issued to Oasis Capital, LLC (i) a secured convertible promissory note in the aggregate principal amount of \$1,450,000 that accrues interest at a rate of 8% per annum (with six months of interest guaranteed) and matures six months after February 5, 2020, (ii) five-year warrants to purchase up to an aggregate of 280,031 shares of our common stock at an exercise price equal to \$2.992 per share and (iii) 46,875 shares of our common stock, in exchange for a cash investment of \$1,200,000 pursuant to a securities purchase agreement dated as of February 5, 2020.

The issuance of the forgoing securities was not registered under the Securities Act in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(9) On March 19, 2020, pursuant to securities purchase agreement with certain accredited investors, we issued, for aggregate gross proceeds of approximately \$3,500,000, (i) an aggregate of 260,000 shares of our common stock; (ii) prefunded warrants to purchase 1,390,166 shares of our common stock at an exercise price of \$0.001 per share; (iii) Series A warrants to purchase an aggregate of 1,650,166 shares of our common stock at an exercise price of \$1.88 per share; and (iv) Series B warrants to purchase 1,650,166 shares of our common stock at an exercise price of \$1.88 per share.

Pursuant to a letter agreement dated March 15, 2020, we paid to H.C. Wainwright & Co, LLC (“Wainwright”), which acted as placement agent for the offering, an aggregate fee equal to 7.5% of the aggregate gross proceeds received by us in the offering, a management fee equal to 1% of the aggregate gross proceeds received by us in the offering, \$25,000 in non-accountable expenses and up to \$40,000 in legal and other out-of-pocket expenses. We also issued to the placement agent warrants to purchase up to 123,762 shares of our common stock at an exercise of \$2.65125 (equal to 125% of the offering price).

The issuance of the forgoing securities was not registered under the Securities Act in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act and Rule 506 promulgated thereunder.

(10) On March 19, 2020, we issued 30,000 shares of our common stock to Oasis Capital, LLC pursuant to an amendment to the Oasis Note, under which, among other things, Oasis Capital, LLC waived its rights to have the Oasis Note repaid from the proceeds of any financing consummated by us.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(11) On April 21, 2020, we issued to Dr. Carl Schwartz, our CEO and director at that time, 1,533,481 shares of our common stock in exchange for cancellation of the Schwartz Note having a total outstanding balance of \$2,192,878 in principal and accrued interest, pursuant to an exchange agreement dated April 21, 2020.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 3(a)(9) of the Securities Act.

(12) On March 3, 2020, Peter Morawetz, a former Board member, was given 5,000 shares of common stock, valued at \$9,800. On March 4, 2020, we issued 150,000 shares of common stock at \$2.35 per share in payment for public relations services. The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(13) On May 27, 2020, we issued 125,000 shares of our common stock to InventaBioTech, Inc. (“IBT”) and its designees pursuant to an asset purchase agreement in exchange for substantially all of the assets owned by and used or useful in the business of certain subsidiaries of IBT.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(14) On June 25, 2020, we issued warrants to purchase up to an aggregate of 1,396,826 shares of our common stock at an exercise price of \$1.80 per share to certain accredited institutional investors holding outstanding warrants to purchase our common stock that were issued on May 8, 2020 (“May 2020 Warrants”). Such investors agreed to exercise their May 2020 Warrants in cash at an exercise price of \$1.45 per share plus pay an additional \$0.125 for each new warrant, pursuant to a warrant exercise letter agreement. We received approximately \$2,200,000 in gross proceeds before deducting placement agent fees and offering expenses payable by us.

Pursuant to an engagement letter dated May 6, 2020, we paid to Wainwright, who acted as placement agent, a cash fee equal to 7.5% of the gross proceeds received from the exercise and the sale of the warrants, a management fee equal to 1% of the aggregate gross aggregate gross proceeds received by us in the offering, \$25,000 in non-accountable expenses and up to \$40,000 in legal and other out-of-pocket expenses. In addition, we issued to the placement agent or its designees warrants to purchase up to an aggregate of 104,763 shares of our common stock at an exercise price of \$2.25 per share (equal to 125% of the exercise price of the new warrants).

The warrants were issued pursuant to exemptions from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(15) On July 1, 2020, we issued 954,719 shares of our common stock to Quantitative Medicine LLC (“QM”) and its designees pursuant to an asset purchase agreement in exchange for substantially all of the assets owned by QM.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(16) On January 12, 2021 we issued and sold to certain institutional and accredited investors in a registered direct offering an aggregate of 3,655,840 shares of our common stock, at a purchase price of \$0.842 per share, for gross proceeds of approximately \$3,000,000 before deducting placement agent fees and offering expenses payable by us. In a concurrent private placement, we also issued to such investors warrants to purchase up to an aggregate of 1,825,420 shares of our common stock at an exercise price of \$0.80 per share. As partial compensation for Wainwright’s services as placement agent in the registered direct offering, we issued to Wainwright’s designees warrants to purchase up to 273,813 shares of our common stock at an exercise price of \$1.0525 per share (equal to 125% of the offering price per share).

The warrants issued to the investors and placement agent’s designees were issued pursuant to exemptions from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(17) On January 21, 2021 we issued and sold to certain institutional and accredited investors in a registered direct offering an aggregate of 2,200,000 shares of our common stock, at a purchase price of \$1.00 per share, for gross proceeds of \$2,200,000 before deducting placement agent fees and offering expenses payable by us. In a concurrent private placement, we also issued to such investors warrants to purchase up to an aggregate of 1,100,000 shares of our common stock at an exercise price of \$1.00 per share. As partial compensation for Wainwright’s services as placement agent in the registered direct offering, we issued to Wainwright’s designees warrants to purchase up to 165,000 shares of our common stock at an exercise price of \$1.25 per share (equal to 125% of the offering price per share).

The warrants issued to the investors and placement agent’s designees were issued pursuant to exemptions from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(18) On January 26, 2021 we issued and sold to certain institutional and accredited investors in a registered direct offering an aggregate of 3,414,970 shares of our common stock, at a purchase price of \$1.20 per share, for gross proceeds of approximately \$4,000,000 before deducting placement agent fees and offering expenses payable by us. In a concurrent private placement, we also issued to such investors warrants to purchase up to an aggregate of 1,707,485 shares of our common stock at an exercise price of \$1.37 per share. As partial compensation for Wainwright’s services as placement agent in the registered direct offering, we issued to Wainwright’s designees warrants to purchase up to 256,123 shares of our common stock at an exercise price of \$1.50 per share (equal to 125% of the offering price per share).

The warrants issued to the investors and placement agent’s designees were issued pursuant to exemptions from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(19) On February 16, 2021 we issued and sold to certain institutional and accredited investors in a registered direct offering an aggregate of 4,222,288 shares of our common stock, at a purchase price of \$1.75 per share, for gross proceeds of approximately \$7,400,000 before deducting placement agent fees and offering expenses payable by us. In a concurrent private placement, we also issued to such investors warrants to purchase up to an aggregate of 2,111,144 shares of our common stock at an exercise price of \$2.00 per share. As partial compensation for Wainwright’s services as placement agent in the registered direct offering, we issued to Wainwright’s designees warrants to purchase up to 316,672 shares of our common stock at an exercise price of \$2.1875 per share (equal to 125% of the offering price per share).

The warrants issued to the investors and placement agent's designees were issued pursuant to exemptions from registration contained in Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(20) On April 16, 2021, we issued 8,814 shares of common stock for payment of \$10,400 for professional research services. On August 30, 2021, we issued 4,505 shares of common stock for payment of \$5,000 for professional research services. On October 11, 2021, we issued 3,760 shares of common stock for payment of \$5,000 for professional research services.

The issuances of the forgoing shares of common stock were not registered under the Securities Act in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

(21) In February 23, 2022, we entered into a securities purchase agreement with certain accredited investors, pursuant to which we issued and sold an aggregate of 9,043,766 shares of our common stock, together with warrants to purchase 4,521,883 shares of our common stock at an exercise price of \$2.00 per share. Each share of common stock accompanying warrant to purchase one-half share were sold together at a combined offering price of \$1.95. We received approximately \$17,600,000 in gross proceeds before deducting placement agent fees and offering expenses payable by us.

Pursuant to an engagement letter dated May 6, 2020, we paid to Wainwright, who acted as placement agent, a cash fee equal to 7.5% of the gross proceeds received in the offering, a management fee equal to 1% of the aggregate gross proceeds received by us in the offering, \$65,000 in non-accountable and legal expenses, and \$15,950 for clearing fees. In addition, we issued to Wainwright or its designees warrants to purchase up to an aggregate of 678,282 shares of our common stock at an exercise price of \$2.4375 per share (equal to 125% of the offering price).

The shares of common stock and warrants were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and Rule 506 promulgated thereunder.

(22) During the six months ended June, 30 2022, we issued an aggregate of 29,346 shares of common stock for an aggregate payment of \$25,000 for professional research services.

The shares of common stock were issued pursuant to an exemption from registration contained in Section 4(a)(2) of the Securities Act and Rule 506 promulgated thereunder.

(23) On May 18, 2022 we issued and sold to certain institutional and accredited investors in a registered direct offering an aggregate of 3,837,280 shares of our common stock, at a purchase price of \$0.60 per share, for gross proceeds of approximately \$2,300,000 before deducting placement agent fees and offering expenses payable by us. In a concurrent private placement, we also issued to such investors the May 2022 Warrants to purchase up to an aggregate of 3,837,280 shares of our common stock at an exercise price of \$0.70 per share. As partial compensation for Wainwright's services as placement agent in the registered direct offering and a concurrent registered direct offering of 8,162,720 shares of our common stock, we issued to Wainwright's designees Placement Agent Warrants to purchase up to an aggregate of 900,000 shares of our common stock at an exercise price of \$0.75 per share (equal to 125% of the offering price per share).

The May 2022 Warrants and Placement Agent Warrants were issued pursuant to exemptions from registration contained in Section 4(a)(2) of the Securities Act and Rule 506 promulgated thereunder.

**Item 16. Exhibits.**

<b>Exhibit Number</b>	<b>Description</b>
2.1	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). <a href="#">Exhibit 2.1</a>
3.1	Certificate of Incorporation (Filed on December 19, 2013 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). <a href="#">Exhibit 3.1</a>
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). <a href="#">Exhibit 3.2</a>
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). <a href="#">Exhibit 3.3</a>
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). <a href="#">Exhibit 3.4</a>
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). <a href="#">Exhibit 3.5</a>
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). <a href="#">Exhibit 3.6</a>
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). <a href="#">Exhibit 3.7</a>
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). <a href="#">Exhibit 3.8</a>
3.9	[Intentionally omitted.]
<a href="#">3.10*</a>	<a href="#">Second Amended and Restated Bylaws effective as of September 9, 2022</a>
3.11	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). <a href="#">Exhibit 3.11</a>
3.12	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). <a href="#">Exhibit 3.12</a>
3.13	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). <a href="#">Exhibit 3.13</a>



- 3.14 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). [Exhibit 3.14](#)
- 3.15 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). [Exhibit 3.15](#)
- 3.16 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). [Exhibit 3.16](#)
- 3.17 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 and incorporated herein by reference). [Exhibit 3.17](#)
- 3.18 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). [Exhibit 3.18](#)
- 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 (File No. 333-198962) and incorporated herein by reference). [Exhibit 4.1](#)
- 4.2 Investor Warrant issued November 28, 2017 (Filed on November 29, 2017 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference.) [Exhibit 4.2](#)
- 4.3 Series E Warrant Agency Agreement by and between Skyline Medical Inc. and Corporate Stock Transfer, Inc. dated January 9, 2018. (Filed on January 10, 2018 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.3](#)
- 4.4 Form of Series E Warrant Certificate (Filed on January 10, 2018 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.4](#)
- 4.5 Common Stock Purchase Warrant issued to L2 Capital, LLC dated September 28, 2018 (Filed on October 4, 2018 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.5](#)
- 4.6 Common Stock Purchase Warrant issued to Peak One Opportunity Fund, LP dated September 28, 2018 (Filed on October 4, 2018 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.6](#)
- 4.7 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). [Exhibit 4.7](#)
- 4.8 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). [Exhibit 4.8](#)
- 4.9 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). [Exhibit 4.9](#)
- 4.10 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). [Exhibit 4.10](#)

- 4.11 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). [Exhibit 4.11](#)
- 4.12 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). [Exhibit 4.12](#)
- 4.13 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). [Exhibit 4.13](#)
- 4.14 Description of Registrant’s Securities (Filed on March 31, 2022 as an exhibit to our Annual Report on Form 10-K and incorporated herein by reference). [Exhibit 4.14](#)
- 4.15 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). [Exhibit 4.15](#)
- 4.16 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). [Exhibit 4.16](#)
- 4.17 Form of Common Stock Purchase Warrant issued June 29, 2020 (Filed on June 26, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.17](#)
- 4.18 Form of Helomics Common Stock Purchase Warrant issued April 4, 2019 (Filed on October 10, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.18](#)
- 4.19 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). [Exhibit 4.19](#)
- 4.20 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). [Exhibit 4.20](#)
- 4.21 Form of Common Stock Purchase Warrant issued January 21, 2021 (Filed on January 26, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.21](#)
- 4.22 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). [Exhibit 4.22](#)
- 4.23 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). [Exhibit 4.23](#)
- 4.24 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). [Exhibit 4.24](#)
- 4.25 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). [Exhibit 4.25](#)
- 4.26 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). [Exhibit 4.26](#)
- 4.27 Form of May 2022 Warrant (Filed on May 18, 2022 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.27](#)

- 4.28 Form of Placement Agent Warrant dated May 18, 2022 (Filed on May 18, 2022 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.28](#)
- 4.29 Form of Warrant Amendment Agreement dated May 16, 2022 (Filed on May 18, 2022 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 4.29](#)
- [5.1\\*](#) [Opinion of Maslon LLP](#)
- 10.1 Office Lease Agreement between the registrant and Roseville Properties Management Company, as agent for Lexington Business Park, LLC (Filed on November 12, 2008 as an exhibit to our Registration Statement on Form S-1 and incorporated herein by reference). [Exhibit 10.1](#)
- 10.2 Employment Agreement with Robert Myers dated August 11, 2012 (Filed on November 5, 2012 as an exhibit to our Registration Statement on Form S-1 and incorporated herein by reference).\*\* [Exhibit 10.2](#)
- 10.3 Amended Lease with Roseville Properties Management Company, Inc. dated January 29, 2013 (Filed on February 8, 2013 as an exhibit to our Registration Statement on Form S-1 (except for Exhibit 10.19, by incorporation by reference from the Schedule 13D/A filed by Dr. Herschkowitz and other parties on November 8, 2012) and incorporated herein by reference). [Exhibit 10.3](#)
- 10.4 Amended and Restated 2012 Stock Incentive Plan (Filed on March 22, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.4](#)
- 10.5 Form of Stock Option Agreement for Employees under Amended and Restated 2012 Stock Incentive Plan (Filed on March 31, 2022 as an exhibit to our Annual Report on Form 10-K and incorporated herein by reference).\*\* [Exhibit 10.5](#)
- 10.6 Form of Stock Option Agreement for Executive Officers under Amended and Restated 2012 Stock Incentive Plan (Filed on March 31, 2022 as an exhibit to our Annual Report on Form 10-K and incorporated herein by reference). \*\* [Exhibit 10.6](#)
- 10.7 Form of Stock Option Agreement for Directors under Amended and Restated 2012 Stock Incentive Plan (Filed on March 31, 2022 as an exhibit to our Annual Report on Form 10-K and incorporated herein by reference). \*\* [Exhibit 10.7](#)
- 10.8 Amendment to Employment Agreement by and between the Issuer and Bob Myers dated August 20, 2018\*\* (Filed on April 1, 2019 as an exhibit to our Annual Report on Form 10-K and incorporated herein by reference). [Exhibit 10.8](#)
- 10.9 Equity Purchase Agreement by and between the Issuer and Oasis Capital, LLC dated October 24, 2019 (Filed on October 25, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.9](#)
- 10.10 Registration Rights Agreement by and between the Issuer and Oasis Capital, LLC dated October 24, 2019 (Filed on October 25, 2019 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.10](#)
- 10.11 Securities Purchase Agreement by and among the Company and the Investors dated March 15, 2020 (Filed on March 16, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.11](#)
- 10.12 Registration Rights Agreement by and among the Company and the Investors dated March 15, 2020 (Filed on March 16, 2020 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.12](#)

- 10.13 Form of Securities Purchase Agreement dated January 8, 2021, by and between Predictive Oncology Inc. and certain Purchasers (Filed on January 12, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.13](#)
- 10.14 Form of Securities Purchase Agreement dated January 19, 2021, by and between Predictive Oncology Inc. and certain Purchasers (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). [Exhibit 10.14](#)
- 10.15 Form of Securities Purchase Agreement dated January 21, 2021, by and between Predictive Oncology Inc. and certain Purchasers (Filed on January 21, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.15](#)
- 10.16 Form of Securities Purchase Agreement dated February 10, 2021, by and between Predictive Oncology Inc. and certain Purchasers (Filed on February 12, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.16](#)
- 10.17 Form of Securities Purchase Agreement dated February 18, 2021, by and between Predictive Oncology Inc. and certain Purchasers (Filed on February 22, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.17](#)
- 10.18 Form of Registration Rights Agreement dated February 18, 2021, by and between Predictive Oncology Inc. and certain Purchasers (Filed on February 22, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.18](#)
- 10.19 Transition and Separation Agreement by and between the Company and Carl Schwartz dated March 19, 2021 (Filed on March 23, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.19](#)
- 10.20 Agreement and Release by and between the Company and Carl Schwartz dated March 19, 2021 (Filed on March 23, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.20](#)
- 10.21 Offer Letter by and between the Company and J. Melville Engle dated March 19, 2021\*\* (Filed on March 23, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.21](#)
- 10.22 Employment Agreement by and between the Company and J. Melville Engle dated effective as of March 19, 2021\*\* (Filed on April 7, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.22](#)
- 10.23 2021 Long Term Incentive Plan\*\* (Filed on May 20, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.57](#)
- 10.24 Form of Securities Purchase Agreement, dated June 14, 2021, between Predictive Oncology Inc. and certain Purchasers (Filed on June 16, 2021 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.24](#)
- 10.25 Form of Securities Purchase Agreement, dated as of May 16, 2022, between Predictive Oncology Inc. and certain Purchasers (First Offering) (Filed on May 18, 2022 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.25](#)
- 10.26 Form of Securities Purchase Agreement, dated as of May 16, 2022, between Predictive Oncology Inc. and certain Purchasers (Second Offering) (Filed on May 18, 2022 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.26](#)

- 10.27 Amended and Restated Employment Agreement effective as of August 1, 2022 by and between Julia Kirshner and Predictive Oncology Inc. (Filed on July 26, 2022 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.27](#)
- 10.28 Transition and Separation Agreement dated September 15, 2022 by and between J. Melville Engle and Predictive Oncology Inc. (Filed on September 16, 2022 as an exhibit to our Current Report on Form 8-K and incorporated herein by reference). [Exhibit 10.28](#)
- 14.1 Code of Ethics (Filed on April 16, 2012 as an exhibit to our Annual Report on Form 10-K and incorporated herein by reference). [Exhibit 14.1](#)
- 22.1 Subsidiaries of the Registrant (Filed on March 31, 2022 as an exhibit to our Annual Report on Form 10-K and incorporated herein by reference.) [Exhibit 22.1](#)
- [23.1\\*](#) [Consent of Independent Registered Public Accounting Firm: Baker Tilly US, LLP](#)
- [23.2\\*](#) [Consent of Maslon LLP \(included as part of Exhibit 5.1\)](#)
- [24.1\\*](#) [Power of Attorney \(included on signature page\)](#)
- [107\\*](#) [Filing Fee Table](#)

\*Filed herewith.

\*\*Compensatory Plan or arrangement required to be filed pursuant to Item 15(b) of Form 10-K.

### 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.

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

- (2) That, for the purpose of determining any liability under the Securities Act 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) 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.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Eagan, State of Minnesota, on September 30, 2022.

### PREDICTIVE ONCOLOGY INC.

/s/ Bob Myers

Bob Myers

Chief Financial Officer

## POWER OF ATTORNEY

Each person whose signature appears below hereby constitutes and appoints J. Melville Engle and Bob Myers, and each of them, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and any and all additional registration statements pursuant to Rule 462(b) of the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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

<b>Signature</b>	<b>Title</b>	<b>Date</b>
<u>/s/ J. Melville Engle</u> J. Melville Engle	Chief Executive Officer (principal executive officer) and Director	September 30, 2022
<u>/s/ Bob Myers</u> Bob Myers	Chief Financial Officer (principal financial and accounting officer)	September 30, 2022
<u>/s/ Raymond Vennare</u> Raymond Vennare	Director	September 30, 2022
<u>/s/ Daniel E. Handley</u> Daniel E. Handley	Director	September 30, 2022
<u>/s/ Gregory S. St. Clair, Sr.</u> Gregory S. St. Clair, Sr.	Director	September 30, 2022
<u>/s/ Chuck Nuzum</u> Chuck Nuzum	Director	September 30, 2022
<u>/s/ Nancy Chung-Welch</u> Nancy Chung-Welch	Director	September 30, 2022



## SECOND AMENDED AND RESTATED BYLAWS

OF

## PREDICTIVE ONCOLOGY INC.

Effective as of September 9, 2022

## ARTICLE 1.

## OFFICES

Section 1.01. Registered Office. The registered office of the Corporation shall be in the City of Wilmington, County of New Castle, State of Delaware.

Section 1.02. Other Offices. The Corporation may also have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

Section 1.03. Books. The books of the Corporation may be kept within or without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

## ARTICLE 2.

## MEETINGS OF STOCKHOLDERS

Section 2.01. Time and Place of Meetings. All meetings of stockholders shall be held at such place, either within or without the State of Delaware, on such date and at such time as may be determined from time to time by the Board of Directors (or the Chairman in the absence of a designation by the Board of Directors).

Section 2.02. Annual Meetings. An annual meeting of stockholders, commencing with the year 2014, shall be held for the election of directors and to transact such other business as may properly be brought before the meeting.

Section 2.03. Special Meetings. Special meetings of stockholders may be called by the Board of Directors, the Chairman of the Board of Directors, the Chief Executive Officer or the President (in the absence of a Chief Executive Officer) of the Corporation and may not be called by any other person. Notwithstanding the foregoing, whenever holders of one or more classes or series of Preferred Stock shall have the right, voting separately as a class or series, to elect directors, such holders may call, pursuant to the terms of the resolution or resolutions adopted by the Board of Directors pursuant to Article 4 hereto, special meetings of holders of such Preferred Stock.

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Section 2.04. Notice of Meetings and Adjourned Meetings; Waivers of Notice.

(a) Whenever stockholders are required or permitted to take any action at a meeting, a written notice of the meeting shall be given which shall state the place, if any, date and hour of the meeting, the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Unless otherwise provided by the General Corporation Law of the State of Delaware as the same exists or may hereafter be amended ("Delaware Law"), such notice shall be given not less than 10 nor more than 60 days before the date of the meeting to each stockholder of record entitled to vote at such meeting. Unless these bylaws otherwise require, when a meeting is adjourned to another time or place (whether or not a quorum is present), notice need not be given of the adjourned meeting if the time, place, if any, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than 30 days, or after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

(b) A written waiver of any such notice signed by the person entitled thereto, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

Section 2.05. Quorum. Unless otherwise provided under the certificate of incorporation or these bylaws and subject to Delaware Law, the presence, in person or by proxy, of the holders of one-third of the outstanding capital stock of the Corporation entitled to vote at a meeting of stockholders shall constitute a quorum for the transaction of business. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the stockholders present in person or represented by proxy shall adjourn the meeting, without notice other than announcement at the meeting, until a quorum shall be present or represented. At such adjourned meeting at which a quorum shall be present or represented any business may be transacted which might have been transacted at the meeting as originally notified.

Section 2.06. Voting.

(a) Unless otherwise provided in the certificate of incorporation and subject to Delaware Law, each stockholder shall be entitled to one vote for each outstanding share of capital stock of the Corporation held by such stockholder. Any share of capital stock of the Corporation held by the Corporation shall have no voting rights. Except as otherwise provided by law, the certificate of incorporation or these bylaws, in all matters other than the election of directors, the affirmative vote of the majority of the shares of capital stock of the Corporation present in person or represented by proxy at the meeting and entitled to vote on the subject matter shall be the act of the stockholders. Subject to the rights of the holders of any series of preferred stock to elect additional directors under specific circumstances, directors shall be elected by a plurality of the votes of the shares of capital stock of the Corporation present in person or represented by proxy at the meeting and entitled to vote on the election of directors.

(b) Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to a corporate action in writing without a meeting may authorize another person or persons to act for such stockholder by proxy, appointed by an instrument in writing, subscribed by such stockholder or by his attorney thereunto authorized, or by proxy sent by cable, telegram or by any means of electronic communication permitted by law, which results in a writing from such stockholder or by his attorney, and delivered to the secretary of the meeting. No proxy shall be voted after three (3) years from its date, unless said proxy provides for a longer period.

(c) Votes may be cast by any stockholder entitled to vote in person or by his proxy. In determining the number of votes cast for or against a proposal or nominee, shares abstaining from voting on a matter (including elections) will not be treated as a vote cast. A non-vote by a broker will be counted for purposes of determining a quorum but not for purposes of determining the number of votes cast.

(d) (i) Subject to this Section 2.06(d), any action that may be taken by vote may be taken without a meeting by written consent. Such action shall constitute action by such stockholders with the same force and effect as if the same had been approved at a duly called meeting of stockholders and evidence of such approval signed by all of the stockholders shall be inserted in the books of the Corporation.

(ii) In order that the Corporation may determine the stockholders entitled to consent to corporate action in writing without a meeting pursuant to this Section 2.06(d), the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which date shall not be more than 10 days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. Any stockholder of record seeking to have the stockholders authorize or take corporate action by written consent shall, by written notice to the Secretary, request the Board of Directors to fix a record date. The Board of Directors shall promptly, but in all events within 10 days after the date on which such a request is received, adopt a resolution fixing the record date (unless a record date has previously been fixed by the Board of Directors pursuant to the first sentence of this Section 2.06(d)(ii)). If no record date has been fixed by the Board of Directors pursuant to the first sentence of this Section 2.06(d)(ii) or otherwise within 10 days of the date on which such a request is received, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is required by applicable law, shall be the first date on which a signed written consent setting forth the action taken or proposed to be taken is delivered to the Corporation by delivery to its registered office in Delaware, the Corporation's principal executive offices, or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery shall be by hand, or by certified or registered mail, return receipt requested. If no record date has been fixed by the Board of Directors and prior action by the Board of Directors is required by applicable law, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting shall be at the close of business on the date on which the Board of Directors adopts the resolution taking such prior action.

(iii) In the event of the delivery, in the manner provided by Section 2.06(d)(ii), to the Corporation of the requisite written consent or consents to take corporate action and/or any related revocation or revocations, the Corporation shall engage independent inspectors of elections for the purpose of performing promptly a ministerial review of the validity of the consents and revocations. For the purpose of permitting the inspectors to perform such review, no action by written consent without a meeting shall be effective until such date as the independent inspectors certify to the Corporation that the consents delivered to the Corporation in accordance with Section 2.06(d)(ii) represent at least the minimum number of votes that would be necessary to take the corporate action. Nothing contained in this Section 2.06(d)(iii) shall in any way be construed to suggest or imply that the Board of Directors or any stockholder shall not be entitled to contest the validity of any consent or revocation thereof, whether before or after such certification by the independent inspectors, or to take any such action (including, without limitation, the commencement, prosecution or defense of any litigation with respect thereto, and the seeking of injunctive relief in such litigation).

(iv) Every written consent shall bear the date of signature of each stockholder who signs the consent, and no written consent shall be effective to take the corporate action referred to therein unless, within 60 days of the earliest dated written consent received in accordance with this Section 2.06(d), a written consent or consents signed by a sufficient number of holders to take such action are delivered to the Corporation in the manner prescribed in this Section 2.06(d).

(v) Any person executing a consent may provide, whether through instruction to an agent or otherwise, that such a consent will be effective at a future time (including a time determined upon the happening of an event), no later than 60 days after such instruction is given or such provision is made, and, for the purposes of this section, if evidence of such instruction or provision is provided to the corporation, such later effective time shall serve as the date of signature. Unless otherwise provided, any such consent shall be revocable prior to its becoming effective.

Section 2.07. Organization. At each meeting of stockholders, the Chairman of the Board, if one shall have been elected, or in the Chairman's absence or if one shall not have been elected, the director designated by the vote of the majority of the directors present at such meeting, shall act as chairman of the meeting. The Secretary (or in the Secretary's absence or inability to act, the person whom the chairman of the meeting shall appoint secretary of the meeting) shall act as secretary of the meeting and keep the minutes thereof.

Section 2.08. Order of Business. The order of business at all meetings of stockholders shall be as determined by the chairman of the meeting.

Section 2.09. Nomination of Directors. Only persons who are nominated in accordance with the procedures set forth in these bylaws shall be eligible to serve as directors. Nominations of persons for election to the Board of Directors of the Corporation may be made at a meeting of stockholders (a) by or at the direction of the Board of Directors or (b) by any stockholder of the Corporation who is a stockholder of record at the time of giving of notice provided for in this Section 2.09, who shall be entitled to vote for the election of directors at the meeting and who complies with the notice procedures set forth in this Section 2.09. Such nominations, other than those made by or at the direction of the Board of Directors, shall be made pursuant to timely notice in writing to the secretary of the Corporation. To be timely, a stockholder's notice shall be delivered to or mailed and received at the principal executive offices of the Corporation not less than 60 days nor more than 90 days prior to the first anniversary of the preceding year's annual meeting of stockholders; *provided, however*, that in the event that the date of the annual meeting is advanced more than 30 days prior to such anniversary date or delayed more than 60 days after such anniversary date then to be timely such notice must be received by the Corporation no later than the later of 70 days prior to the date of the meeting or the 10th day following the day on which public announcement of the date of the meeting was made. Such stockholder's notice shall set forth (a) as to each person whom the stockholder proposes to nominate for election or reelection as a director all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934 (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected); and (b) as to the stockholder giving the notice (i) the name and address, as they appear on the Corporation's books, of such stockholder and (ii) the class and number of shares of the Corporation which are beneficially owned by such stockholder and a description of any agreement, arrangement or understanding (including, regardless of the form of settlement, any derivative, long or short positions, profit interests, forwards, futures, swaps, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions and borrowed or loaned shares) that has been entered into by or on behalf of, or any other agreement, arrangement or understanding that has been made, the effect or intent of which is to create or mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder with respect to the Corporation's securities. At the request of the Board of Directors, any person nominated by the Board of Directors for election as a director shall furnish to the secretary of the Corporation that information required to be set forth in a stockholder's notice of nomination which pertains to the nominee. No person shall be eligible to serve as a director of the Corporation unless nominated in accordance with the procedures set forth in this bylaw. The chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that a nomination was not made in accordance with the procedures prescribed by the bylaws, and if he should so determine, he shall so declare to the meeting and the defective nomination shall be disregarded. Notwithstanding the foregoing provisions of this Section 2.09, a stockholder shall also comply with all applicable requirements of the Securities Exchange Act of 1934, and the rules and regulations thereunder with respect to the matters set forth in this Section 2.09.

Section 2.10. Notice of Business. At any meeting of the stockholders, only such business shall be conducted as shall have been brought before the meeting (a) by or at the direction of the Board of Directors or (b) by any stockholder of the Corporation who is a stockholder of record at the time of giving of the notice provided for in this Section 2.10, who shall be entitled to vote at such meeting and who complies with the notice procedures set forth in this Section 2.10. For business to be properly brought before a stockholder meeting by a stockholder, the stockholder must have given timely notice thereof in writing to the secretary of the Corporation. To be timely, a stockholder's notice shall be delivered to or mailed and received at the principal executive offices of the Corporation not less than 60 days nor more than 90 days prior to the first anniversary of the preceding year's annual meeting of stockholders; *provided, however*, that in the event that the date of the annual meeting is advanced more than 30 days prior to such anniversary date or delayed more than 60 days after such anniversary date then to be timely such notice must be received by the Corporation no later than the later of 70 days prior to the date of the meeting or the 10th day following the day on which public announcement of the date of the meeting was made. A stockholder's notice to the secretary shall set forth as to each matter the stockholder proposes to bring before the meeting (a) a brief description of the business desired to be brought before the meeting and the reasons for conducting such business at the meeting, (b) the name and address, as they appear on the Corporation's books, of the stockholder proposing such business, (c) the class and number of shares of the Corporation which are beneficially owned by such stockholder and a description of any agreement, arrangement or understanding (including, regardless of the form of settlement, any derivative, long or short positions, profit interests, forwards, futures, swaps, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions and borrowed or loaned shares) that has been entered into by or on behalf of, or any other agreement, arrangement or understanding that has been made, the effect or intent of which is to create or mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder with respect to the Corporation's securities and (d) any material interest of the stockholder in such business. Notwithstanding anything in the bylaws to the contrary, no business shall be conducted at a stockholder meeting except in accordance with the procedures set forth in this Section 2.10. The chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that business was not properly brought before the meeting and in accordance with the provisions of the bylaws, and if he should so determine, he shall so declare to the meeting and any such business not properly brought before the meeting shall not be transacted. Notwithstanding the foregoing, provisions of this Section 2.10, a stockholder shall also comply with all applicable requirements of the Securities Exchange Act of 1934, and the rules and regulations thereunder with respect to the matters set forth in this Section 2.10.

### **ARTICLE 3.**

#### **DIRECTORS**

Section 3.01. General Powers. Except as otherwise provided in Delaware Law or the certificate of incorporation, the business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

Section 3.02. Number, Election and Term of Office. 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 shall be 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 shall serve for a term ending on the date of the third annual meeting of the Corporation's stockholders following the annual meeting at which such director was elected; provided, however, that each director initially appointed to Class I shall serve for an initial term expiring at the Corporation's first annual meeting of stockholders following the effectiveness of this provision; each director initially appointed to Class II shall serve for the initial term expiring at the Corporation's second annual meeting of stockholders following the effectiveness of this provision; and each director initially appointed to Class III shall serve for an initial term expiring at the Corporation's third annual meeting of stockholders following the effectiveness of this provision; provided further, 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. Directors need not be stockholders.

Section 3.03. Quorum and Manner of Acting. Unless the certificate of incorporation or these bylaws require a greater number, a majority of the total number of directors shall constitute a quorum for the transaction of business, and the affirmative vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors. When a meeting is adjourned to another time or place (whether or not a quorum is present), notice need not be given of the adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Board of Directors may transact any business which might have been transacted at the original meeting. If a quorum shall not be present at any meeting of the Board of Directors the directors present thereat shall adjourn the meeting, from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

Section 3.04. Time and Place of Meetings. The Board of Directors shall hold its meetings at such place, either within or without the State of Delaware, and at such time as may be determined from time to time by the Board of Directors (or the Chairman in the absence of a determination by the Board of Directors).

Section 3.05. Annual Meeting. The Board of Directors shall meet for the purpose of organization, the election of officers and the transaction of other business, as soon as practicable after each annual meeting of stockholders, on the same day and at the same place where such annual meeting shall be held. Notice of such meeting need not be given. In the event such annual meeting is not so held, the annual meeting of the Board of Directors may be held at such place either within or without the State of Delaware, on such date and at such time as shall be specified in a notice thereof given as hereinafter provided in Section 3.07 herein or in a waiver of notice thereof signed by any director who chooses to waive the requirement of notice.

Section 3.06. Regular Meetings. After the place and time of regular meetings of the Board of Directors shall have been determined and notice thereof shall have been once given to each member of the Board of Directors, regular meetings may be held without further notice being given.

Section 3.07. Special Meetings. Special meetings of the Board of Directors may be called by the Chairman of the Board or the President and shall be called by the Chairman of the Board, President or Secretary on the written request of three directors. Notice of special meetings of the Board of Directors shall be given to each director at least three days before the date of the meeting in such manner as is determined by the Board of Directors.

Section 3.08. Committees. The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matter: (a) approving or adopting, or recommending to the stockholders, any action or matter expressly required by Delaware Law to be submitted to the stockholders for approval or (b) adopting, amending or repealing any bylaw of the Corporation. Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

Section 3.09. Action by Consent. Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions, are filed with the minutes of proceedings of the Board or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 3.10. Telephonic Meetings. Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or such committee, as the case may be, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.



Section 3.11. Resignation. Any director may resign at any time by giving notice in writing or by electronic transmission to the Board of Directors or to the Secretary of the Corporation. The resignation of any director shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 3.12. Vacancies. Unless otherwise provided in the certificate of incorporation, 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. Each director so elected shall hold office for a term that shall coincide with the term of the Class to which such director shall have been elected. If there are no directors in office, then an election of directors may be held in accordance with Delaware Law. Unless otherwise provided in the certificate of incorporation, when one or more directors shall resign from the Board, effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have the power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office as provided in the filling of the other vacancies.

Section 3.13. Removal. No director may be removed from office by the stockholders except for cause with the affirmative vote of the holders of not less than a majority of the total voting power of all outstanding securities of the corporation then entitled to vote generally in the election of directors, voting together as a single class.

Section 3.14. Compensation. Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board of Directors shall have authority to fix the compensation of directors, including fees and reimbursement of expenses.

Section 3.15. Preferred Stock Directors. Notwithstanding anything else contained herein, whenever the holders of one or more classes or series of Preferred Stock shall have the right, voting separately as a class or series, to elect directors, the election, term of office, filling of vacancies, removal and other features of such directorships shall be governed by the terms of the resolutions applicable thereto adopted by the Board of Directors pursuant to the certificate of incorporation, and such directors so elected shall not be subject to the provisions of Sections 3.02, 3.12 and 3.13 of this Article 3 unless otherwise provided therein.

#### **ARTICLE 4.**

##### **OFFICERS**

Section 4.01. Principal Officers. The principal officers of the Corporation shall be a President, one or more Vice Presidents, a Treasurer and a Secretary who shall have the duty, among other things, to record the proceedings of the meetings of stockholders and directors in a book kept for that purpose. The Corporation may also have such other principal officers, including one or more Controllers, as the Board may in its discretion appoint. One person may hold the offices and perform the duties of any two or more of said offices, except that no one person shall hold the offices and perform the duties of President and Secretary.

Section 4.02. Election, Term of Office and Remuneration. The principal officers of the Corporation shall be elected annually by the Board of Directors at the annual meeting thereof. Each such officer shall hold office until his or her successor is elected and qualified, or until his or her earlier death, resignation or removal. The remuneration of all officers of the Corporation shall be fixed by the Board of Directors. Any vacancy in any office shall be filled in such manner as the Board of Directors shall determine.

Section 4.03. Subordinate Officers. In addition to the principal officers enumerated in Section 4.01 herein, the Corporation may have one or more Assistant Treasurers, Assistant Secretaries and Assistant Controllers and such other subordinate officers, agents and employees as the Board of Directors may deem necessary, each of whom shall hold office for such period as the Board of Directors may from time to time determine. The Board of Directors may delegate to any principal officer the power to appoint and to remove any such subordinate officers, agents or employees.

Section 4.04. Removal. Except as otherwise permitted with respect to subordinate officers, any officer may be removed, with or without cause, at any time, by resolution adopted by the Board of Directors.

Section 4.05. Resignations. Any officer may resign at any time by giving written notice to the Board of Directors (or to a principal officer if the Board of Directors has delegated to such principal officer the power to appoint and to remove such officer). The resignation of any officer shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 4.06. Powers and Duties. The officers of the Corporation shall have such powers and perform such duties incident to each of their respective offices and such other duties as may from time to time be conferred upon or assigned to them by the Board of Directors.

## ARTICLE 5.

### CAPITAL STOCK

Section 5.01. Certificates For Stock; Uncertificated Shares. Certificates for shares of stock of the Corporation may be certificated or uncertificated, as provided under Delaware law, and shall be entered in the books of the Corporation and registered as they are issued. Any certificates representing shares of stock of the Corporation shall be in such form as the Board of Directors may from time to time prescribe, and shall set forth the name of the Corporation, that the Corporation is incorporated under the laws of the State of Delaware, the name of the stockholder, the number and class (and the designation of the series, if any) of the shares represented, and any restrictions on the transfer or registration of such shares of stock imposed by the Corporation's Certificate of Incorporation, these Bylaws, any agreement among stockholders or any agreement between stockholders and the Corporation. Any certificates issued to any stockholder shall be signed by the Chairman or Vice Chairman of the Board of Directors, or the President or Vice President, and by the Treasurer or an assistant Treasurer, or the Secretary or an assistant Secretary of the Corporation. Any or all of the signatures on a certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue. The Corporation shall not have power to issue a certificate in bearer form.

Section 5.02. Transfer Agent. The Board of Directors shall have power to appoint one or more transfer agents and registrars for the transfer and registration of certificates of stock of any class and may require that any stock certificates shall be countersigned and registered by one or more of such transfer agents and registrars. The transfer agent and registrar may be the same person.

Section 5.03. Transfer of Stock. Shares of the stock of the Corporation may be transferred on the record of stockholders of the Corporation by the holder thereof or by such holder's duly authorized attorney upon surrender of a certificate therefor properly endorsed or upon receipt of proper transfer instructions from the registered holder of uncertificated shares or by such holder's duly authorized attorney and upon compliance with appropriate procedures for transferring shares in uncertificated form, unless waived by the Corporation. Upon the receipt of proper transfer instructions from the registered owner of uncertificated shares, such uncertificated shares shall be cancelled, issuance of new equivalent uncertificated shares or certificated shares shall be made to the stockholder entitled thereto and the transaction shall be recorded upon the books of the Corporation.

Section 5.04. Authority for Additional Rules Regarding Transfer. The Board of Directors shall have the power and authority to make all such rules and regulations as they may deem expedient concerning the issue, transfer and registration of certificated or uncertificated shares of the stock of the Corporation, as well as for the issuance of new certificates in lieu of those which may be lost or destroyed, and may require of any stockholder requesting replacement of lost or destroyed certificates, bond in such amount and in such form as they may deem expedient to indemnify the Corporation, and/or the transfer agents, and/or the registrars of its stock against any claims arising in connection therewith.

Section 5.05. Lost, Stolen or Destroyed Certificates. In case any certificates of the capital stock of the Corporation shall be lost, stolen or destroyed, the Corporation may issue (i) a new certificate or certificates of stock or (ii) uncertificated shares in place of any certificate or certificates previously issued by the Corporation, in either case upon such proof of the fact and such indemnity to be given to it and to its transfer agent and registrar, if any, as shall be deemed necessary or advisable by it.

Section 5.06. Stockholder of Record. The Corporation shall be entitled to treat the stockholder of record of any share or shares of stock as the holder thereof in fact and shall not be bound to recognize any equitable or other claim to or interest in such shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise expressly provided by law. The expression "stockholder" or "stockholders" whenever used in these Bylaws shall be deemed to mean only the stockholder or stockholders of record of stock.

ARTICLE 6.

GENERAL PROVISIONS

Section 6.01. Fixing the Record Date.

(a) In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than 60 nor less than 10 days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided* that the Board of Directors may fix a new record date for the adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to consent to corporate action in writing without a meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which date shall not be more than 10 days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. If no record date has been fixed by the Board of Directors, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is required by Delaware Law, shall be the first date on which a signed written consent setting forth the action taken or proposed to be taken is delivered to the Corporation by delivery to its registered office in Delaware, its principal place of business, or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. If no record date has been fixed by the Board of Directors and prior action by the Board of Directors is required by Delaware Law, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting shall be at the close of business on the day on which the Board of Directors adopts the resolution taking such prior action.

(c) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 6.02. Dividends. Subject to limitations contained in Delaware Law and the certificate of incorporation, the Board of Directors may declare and pay dividends upon the shares of capital stock of the Corporation, which dividends may be paid either in cash, in property or in shares of the capital stock of the Corporation.

Section 6.03. Year. The fiscal year of the Corporation shall commence on January 1 and end on December 31 of each year. The fiscal year of the corporation may be changed by the board of directors.

Section 6.04. Corporate Seal. The corporate seal shall have inscribed thereon the name of the Corporation, the year of its organization and the words "Corporate Seal, Delaware". The seal may be used by causing it or a facsimile thereof to be impressed, affixed or otherwise reproduced.

Section 6.05. Voting of Stock Owned by the Corporation. The Board of Directors may authorize any person, on behalf of the Corporation, to attend, vote at and grant proxies to be used at any meeting of stockholders of any corporation (except this Corporation) in which the Corporation may hold stock.

Section 6.06. Amendments. These bylaws or any of them, may be altered, amended or repealed, or new bylaws may be made, by the stockholders entitled to vote thereon at any annual or special meeting thereof or by the Board of Directors. Unless a higher percentage is required by the certificate of incorporation as to any matter which is the subject of these bylaws, all such amendments must be approved by the affirmative vote of a majority of the total voting power of all outstanding securities of the Corporation then entitled to vote generally in the election of directors, voting together as a single class or by a majority of the Board of Directors.

September 30, 2022

Predictive Oncology Inc.  
2915 Commers Drive, Suite 900  
Eagan, Minnesota 55121

**Re: Registration Statement on Form S-1**

Ladies and Gentlemen:

We have acted as counsel for Predictive Oncology Inc., a Delaware corporation (the “**Company**”), in connection with a Registration Statement on Form S-1 (the “**Registration Statement**”) filed by the Company under the Securities Act of 1933, as amended (the “**Act**”), covering the registration for resale by the selling stockholders named therein of an aggregate of 4,737,280 shares of the Company’s common stock, \$0.01 par value (the “**Common Stock**”), comprised of: (i) 3,837,280 shares of Common Stock (the “**Warrant Shares**”) issuable upon the exercise of common stock purchase warrants (the “**Warrants**”) that were issued in a private placement that closed on May 18, 2022 (the “**Private Placement**”) and (ii) 900,000 shares of Common Stock (the “**Placement Agent Warrant Shares**”) issuable upon the exercise of placement agent common stock purchase warrants (the “**Placement Agent Warrants**”) issued to H.C. Wainwright & Co., LLC or its designees, as part of its compensation for serving as the Company’s exclusive placement agent in connection with the Private Placement. This opinion is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Act.

In arriving at the opinions expressed below, we have examined originals, or copies certified or otherwise identified to our satisfaction as being true and complete copies of the originals, of such documents, corporate records, certificates of officers of the Company and of public officials and other instruments as we have deemed necessary or advisable to enable us to render the opinions set forth below. In our examination, we have assumed without independent investigation the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies.

We express no opinion herein as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware (including the statutory provisions and all applicable judicial decisions interpreting those laws) and the federal laws of the United States of America.

Subject to the foregoing and the other matters set forth herein, it is our opinion that (i) the Warrant Shares, when issued and sold against payment therefore in accordance with the terms of the Warrants, will be validly issued, fully paid and nonassessable, and (ii) the Placement Agent Warrant Shares, when issued and sold against payment therefore in accordance with the terms of the Placement Agent Warrants, will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement, and to the reference to our firm under the heading “Legal Matters” in the prospectus comprising a part of the Registration Statement. In giving this consent, we do not thereby admit that we are an “expert” with the meaning of the Act. We assume no obligation to update or supplement any of the opinions set forth herein to reflect any changes of law or facts that may occur following the date here.

Very truly yours,

Handwritten signature of Maslon LLP in blue ink.

/s/ MASLON LLP

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in the Registration Statement on Form S-1 of Predictive Oncology Inc. of our report dated March 31, 2022, 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, 2021. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Baker Tilly US, LLP

Minneapolis, Minnesota

September 30, 2022

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## Calculation of Filing Fee Tables

S-1  
(Form Type)Predictive Oncology Inc.  
(Exact Name of Registrant as Specified in its Charter)**Table 1: Newly Registered Securities**

	<u>Security Type</u>	<u>Security Class Title</u>	<u>Fee Calculation Rate</u>	<u>Amount Registered(1)</u>	<u>Proposed Maximum Offering Price Per Unit</u>	<u>Maximum Aggregate Offering Price</u>	<u>Fee Rate</u>	<u>Amount of Registration Fee</u>
Fees to be paid	Equity	Common Stock, par value \$0.01 per share	457(c)	4,737,280(2)	0.379(3)	1,795,429.12(3)	0.0000927	166.44
<b>Total Offering Amount</b>						<u>\$ 1,795,429.12</u>		<u>\$ 166.44</u>
<b>Fees Previously Paid</b>						--		<u>\$ --</u>
<b>Net Fee Due</b>								<u>\$ 166.44</u>

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), the shares of Common Stock being registered hereunder include such indeterminate number of shares of Common Stock as may be issuable with respect to the shares of Common Stock being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(2) Consists of 4,737,280 shares of Common Stock registered for resale by the selling stockholders named in this registration statement issuable upon the exercise of Warrants.

(3) Pursuant to Rule 457(c) under the Securities Act, calculated on the basis of the average of the high and low prices per share of the Common Stock reported on the Nasdaq Capital Market on September 28, 2022.