Predictive Oncology Announces Positive Results from Ovarian Cancer Study with UPMC Magee-Womens Hospital to be Presented at the 2024 American Society of Clinical Oncology (ASCO) Annual Meeting

May 28, 2024

Study successfully demonstrated Predictive's ability to build AI multi-omic machine learning models to predict survival outcomes among ovarian cancer patients better than clinical data alone

PITTSBURGH, May 28, 2024 (GLOBE NEWSWIRE) -- Predictive Oncology Inc. (NASDAQ: POAI), a leader in AI-driven drug discovery and biologics, today announced that positive results from a retrospective study that the company recently completed in collaboration with UPMC Magee-Womens Hospital will be presented at the 2024 American Society of Clinical Oncology (ASCO) Annual Meeting, which is being held May 31-June 4, 2024, in Chicago, Il.

The purpose of the study was to determine if Predictive Oncology could leverage its artificial intelligence and other capabilities to develop machine learning (ML) models that could more accurately predict both short-term (two-year) and long-term (five-year) survival outcomes among ovarian cancer patients.

"High grade serous ovarian cancer is a notoriously challenging cancer to treat, due in large part to the lack of symptoms in the early stages of disease," stated Robert Edwards, MD, Professor and Chair, Department of Obstetrics, Gynecology & Reproductive Sciences, Co-Director, Gynecologic Oncology Research, Magee-Womens Hospital of UPMC. "While surgery and frontline chemotherapy are effective in the near-term, nearly 80% of patients will relapse in one to two years, and only 20% will be long-term survivors. The ability to employ ML to better predict patient prognoses may help with clinical management and monitoring and could serve as a decision support tool to better tailor treatment plans to individual patients. The results of this important study strongly support continued development of such ML models and subsequent incorporation into daily clinical practice."

"We would like to thank Brian Orr, MD, lead investigator of the study, Robert Edwards, MD, the other investigators, and our collaborators at Magee-Womens Hospital who executed on this study so successfully," stated Arlette Uihlein, MD, Senior Vice President, Translational Medicine and Drug Discovery, and Medical Director, Predictive Oncology. "We believe these results highlight the potential of AI and machine learning to not only accelerate early oncology drug discovery, but to assist with the clinical management of cancer patients in real-time, thereby improving survival outcomes. We also see an opportunity to leverage these findings to discover unique biomarkers that can be used by us or a partner to develop novel cancer therapeutics. With a unique set of assets and capabilities, including our biobank of more than 150,000 tumor samples, 200,000 pathology slides, CLIA-certified wet lab, and decades of longitudinal patient data that clearly differentiate us from peers, Predictive Oncology is proud to be a leader in this emerging field."

Presentation details:

Title:	**Using Artificial Intelligence-Powered Evidence-Based Molecular Decision-Making for Improved Outcomes in Ovarian Cancer**
Abstract #:	448976
Session:	Gynecologic Cancer
Date/time:	Monday, June 3rd, 9:00am-12:00pm CDT (10:00am-1:00pm EDT)
Presenter:	Dr. Brian Christopher Orr, MD, MS, Gynecologic Oncologist at the Hollings Cancer Center, Assistant Professor, Medical University of South Carolina

Summary:

The study analyzed clinical data and tumor specimens from 2010-2016. Patient data, whole exome sequencing (WES), whole transcriptome sequencing (WTS), drug response profile, and digital pathology profile were used as input feature sets for training the 160 multi-omic machine learning (ML) models that were built as part of the study. Hypothesis-free training of the ML models was utilized to classify patient survival at two-year and five-year threshold. Model performance was estimated using AUROC (area under the receiver operating characteristic curve) metric, with scores greater than 0.5 having higher prediction potential.

Results:

Of the 160 ML models built, seven were found to achieve high prediction accuracy at the two-year threshold, and 13 at the five-year threshold. Multi-omic feature set inputs led to superior prediction and improved performance over clinical data alone, and top performing models predicted better than any feature set in isolation.

Conclusion:

Utilizing multi-omic machine learning models, superior prediction of short- and long-term survival was achieved as compared to clinical data alone. The specific drivers of the top performing models were different for the short- and long-term cohorts, identifying future research opportunities as well as development potential of a clinical decision tool.

The full 2024 ASCO Program Guide can be found [here](#).

About Predictive Oncology
Predictive Oncology is on the cutting edge of the rapidly growing use of artificial intelligence and machine learning to expedite early drug discovery and enable drug development for the benefit of cancer patients worldwide. The company's scientifically validated AI platform, PEDAL, is able to predict with 92% accuracy if a tumor sample will respond to a certain drug compound, allowing for a more informed selection of drug/tumor type combinations for subsequent in-vitro testing. Together with the company's vast biobank of more than 150,000 assay-capable heterogenous human tumor samples, Predictive Oncology offers its academic and industry partners one of the industry's broadest AI-based drug discovery solutions, further complimented

by its wholly owned CLIA lab and GMP facilities. Predictive Oncology is headquartered in Pittsburgh, PA.

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Forward-Looking Statements:
Certain matters discussed in this release contain forward-looking statements. These forward- looking statements reflect our current expectations and projections about future events and are subject to substantial risks, uncertainties and assumptions about our operations and the investments we make. All statements, other than statements of historical facts, included in this press release regarding our strategy, future operations, future financial position, future revenue and financial performance, projected costs, prospects, changes in management, plans and objectives of management are forward-looking statements. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "would," "target" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Our actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors including, among other things, factors discussed under the heading "Risk Factors" in our filings with the SEC. Except as expressly required by law, the Company disclaims any intent or obligation to update these forward-looking statements.