Predictive Oncology Launches Novel 3D Cell Technology to Accelerate Cancer Therapeutic Drug Discovery

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Predictive Oncology's organ-specific in vitro models are designed to better mimic the physiological environment of human tissue

The 3D cell culture market is projected to grow by more than 14% annually, from $1.4 billion in 2022 to nearly $5.3 billion annually by 2032[1]

PITTSBURGH, June 04, 2024 (GLOBE NEWSWIRE) -- Predictive Oncology Inc. (NASDAQ: POAI), a leader in AI-driven drug discovery and biologics, today announced the availability of its unique 3D cell culture model to advance cancer drug discovery and enable future drug development.

Organ specific 3D cell cultures more closely mimic human tissue architecture than do traditional 2D assays and provide a more representative method for *in vivo* drug candidate clinical testing. This allows for the more robust predictions of clinical outcomes and can be used to optimize candidate selection for subsequent clinical development.

"The results of our studies demonstrate the importance of incorporating more complex 3D cell applications into the global drug discovery and development processes, to decrease the time to market and cost of new drugs, while reducing the need for animal testing and time-consuming iterations during clinical trials," said Raymond Vennare, Chief Executive Officer of Predictive Oncology.

Predictive Oncology's *in vitro* organ- and disease-specific models are designed to better mimic the physiological environment of human tissue and preserve critical interactions between a tumor and its cellular and extracellular surroundings. These models are fully customizable to the tissue of interest, and compatible with multiple cell types and drug classes.

"The foundational work that we have been doing over the past two years holds great promise for the development and use of 3D organoids and spheroids utilizing our high throughput platform that incorporates AI and machine learning to efficiently predict drug response for oncology modeling and other applications," said Dr. Arlette Uihlein, SVP of Translational Medicine at Predictive Oncology. "The results of our studies highlighting the importance of using 3D tumor models, including r-Breast and r-Pancreas, were recently presented at the Society for Laboratory Automation and Screening (SLAS) in Boston, MA."

According to a recent report by Precedence Research, applications for 3D cell cultures span a wide range of fields, including pharmaceuticals, regenerative medicine, cancer research, and toxicology. In drug discovery and development, 3D cell cultures are instrumental in predicting drug efficacy, toxicity, and pharmacokinetics more accurately than traditional methods, reducing the attrition rate of drug candidates in later stages of clinical trials. The 3D cell culture market is estimated to be $1.42 billion in 2022 and is forecasted to grow to nearly $5.3 billion by 2032, representing a compound annual growth rate (CAGR) of more than 14%[1].

[1]Source: Precedence Research. https://www.biospace.com/article/releases/3d-cell-culture-market-size-to-attain-around-usd-5-29-bn-by-2032

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.