

# Perthera Announces Breakthrough in Pancreatic Cancer, World's First AI-Driven Chemo Predictor for Frontline Treatment

MCCLEAN, VA, UNITED STATES, January 14, 2025 /EINPresswire.com/ -- Perthera, a leader in AI-driven precision oncology, announces a groundbreaking advancement in the fight against pancreatic adenocarcinoma (PDAC) with the introduction of PDACai, the world's first validated artificial intelligence signature designed to predict front-line chemotherapy effectiveness for newly diagnosed patients. It will be available for ordering physicians in February 2025. Prior to PDACai, there has been no way for a treating clinician to know which of the two current most frequently used frontline treatments a patient would most likely respond to without trialing the patient on each of these drug regimens, losing critical time and impacting overall survival.

Developed using advanced machine learning and leveraging Perthera's extensive novel real world evidence pancreatic cancer data repository, PDACai analyzes patient genomic, clinical, epidemiological, treatment and outcome data to predict the relative effectiveness of the two most common frontline chemotherapy regimens for PDAC—FOLFIRINOX (FFX) and gemcitabine plus nab-paclitaxel (GA). By leveraging insights from similar patients, the platform delivers actionable predictions to help physicians optimize this critical frontline treatment sequencing and improve outcomes for individual patients. This AI-based signature combines the molecular, epidemiological and clinical elements of a patient and their tumor. The [PDACai signature was first described in 2023 at the ASCO GI meeting](#), and its ultimate entirely independent validation is being discussed this year at the 2025 ASCO GI meeting.

## Transforming Pancreatic Cancer Care with AI

Pancreatic cancer is the fourth leading cause of cancer-related deaths globally, with a five-year survival rate of less than 8%. For the approximately 66,000 individuals diagnosed last year in the U.S., the prognosis is devastating, with only 13% surviving beyond five years. PDACai seeks to change that narrative by empowering oncologists with data-driven insights that go beyond each patient's unique tumor mutation profile to incorporate additional data points that help identify an optimal treatment choice.

The discovery of the PDACai signature was made possible through Perthera's unparalleled data, the largest repository of pancreatic cancer data in the world, containing real-world evidence (RWE) and patient outcomes. Perthera's dataset was greatly augmented by its 6-year partnership with the Pancreatic Cancer Action Network (PanCAN) which provided a Perthera Report to every patient in PanCAN's Know Your Tumor (KYT) Program. This provided the robust foundation

necessary to identify the mutational patterns and predictive insights that drive PDACai.

"Our partnership with Perthera exemplifies the power of collaboration in precision medicine. Through the PanCAN Know Your Tumor program, we gathered real-world data on patients' clinical characteristics, tumor molecular makeup, and treatment response and outcomes," said Anna Berkenblit, MD, MMSc, Chief Scientific and Medical Officer at PanCAN. "We are encouraged that data from PanCAN's Know Your Tumor program helped inform Perthera's AI-driven chemotherapy predictor, which has the potential to improve treatment outcomes and change the trajectory of care for patients with pancreatic cancer."

#### A Lifeline for Physicians and Patients

"Pancreatic cancer is an incredibly challenging disease to treat, and there has long been a need to help the clinician with frontline decision-making," said Dr. Emanuel "Chip" Petricoin, PhD, Chief Science Officer and Co- Founder of Perthera. "PDACai offers a transformative solution by combining the power of AI with Perthera's very large and unique real-world data repository to provide oncologists with precise, patient-specific guidance. This is not just a tool for physicians—it's a lifeline for patients and families navigating this devastating diagnosis."

Dr. Flavio G. Rocha, Division Head of Surgical Oncology, Physician-in-Chief, Knight Cancer Institute, Oregon Health and Science University and leading expert in gastrointestinal oncology, emphasized the practical benefits for physicians: "As oncologists, we often face uncertainty in determining which chemotherapy regimen will provide the best outcome for our patients with pancreatic cancer. In addition, as a pancreatic surgeon, it would be ideal to predict which patients respond to which regimen for optimal response or downstaging prior to surgery. PDACai bridges that gap by offering data-driven, individualized insights. It allows us to make more confident treatment decisions, improve outcomes, and ultimately offer our patients a more personalized approach to care in a disease where every advantage counts."

#### Validated Insights Backed by Real-World Evidence

The utility of PDACai has been validated through a retrospective real-world evidence study published in the Journal of Clinical Oncology in June 2023. The study demonstrated that PDACai's predictions aligned with observed progression-free survival trends for patients receiving either FFX or GA. These findings underscore PDACai's ability to tailor treatment strategies in a disease where responses to chemotherapy are notoriously unpredictable.

#### Pioneering the Use of AI in Precision Oncology

PDACai stands alone as the first clinically validated AI-driven predictor for chemotherapy outcomes in pancreatic cancer. As such, PDACai fills a critical gap in precision medicine by focusing on one of the most lethal and difficult-to-treat diseases.

"This is an important moment for Perthera. You could equally describe PDACai as the world's best digital twin for PDAC. This is what we have been working towards. We are the first to produce a clinically validated signature from our AI platform, which has been meticulously

curated by human experts. We will follow this with similar signatures for other cancer types”, said Donna Tuths, CEO of Perthera.

With a patent pending for its innovative methods, PDACai is poised to redefine pancreatic cancer treatment and establish a new standard of care. Its predictive capabilities are particularly valuable for patients without actionable genetic findings, a group that has historically lacked personalized treatment options.

#### About Perthera

[Perthera, The Therapeutic Intelligence Company](#), is a leader in AI-driven precision oncology solutions. Utilized at over 600 US cancer centers Perthera provides decision support to over 1,500 oncologists. Its Perthera Report integrates multi-omic test results from any source to deliver ranked therapy options tailored to each patient’s unique molecular profile. These insights are validated by real-world outcomes, driving advancements in artificial intelligence. Perthera’s platform is lab-agnostic, enriched by data from leading NGS diagnostic providers, including Tempus AI, Foundation Medicine, Caris, and Guardant. Its dataset has been leveraged by biopharma and the DOD. Peer-reviewed publications have validated the Perthera Report, including a study showing a 2.4-fold increase in progression-free survival.

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