

ABSTRACT #4010



Biomarkers May Predict Better Immunotherapy Treatment Outcomes for Certain Patients with Pancreatic Cancer

Findings from the Parker Institute for Cancer Immunotherapy (PICI) and its collaborative network of researchers, including from the University of Pennsylvania, presented at 2022 ASCO Annual Meeting and published in Nature Medicine

New data from the PRINCE clinical trial, co-funded by PICI, Bristol Myers Squibb and the Cancer Research Institute in collaboration with Apexigen, could aid patient selection in future chemoimmunotherapy studies

Pancreatic cancer remains one of the most crucial challenges in oncology and is predicted to become the No. 2 cause of cancer death in the U.S. by 2040

SAN FRANCISCO, JUNE 3, 2022 – Researchers have identified certain patients with pancreatic cancer who may be more likely to benefit from combination treatment regimens consisting of immunotherapy and chemotherapy. These new data, stemming from a long-term collaboration between academia, biotech, pharma and nonprofits within the [Parker Institute for Cancer Immunotherapy](#) (PICI) network, were shared with the medical community at the [2022 American Society of Clinical Oncology \(ASCO\) Annual Meeting](#) in Chicago today. The comprehensive clinical and immunologic findings of the Phase II clinical trial, known as the PRINCE study, were published simultaneously in the peer-reviewed journal [Nature Medicine](#).

Approximately 60,000 people are diagnosed with pancreatic cancer every year in the U.S., and the prognosis is typically poor. For the subset of patients diagnosed with advanced metastatic pancreatic ductal adenocarcinoma (mPDAC), the disease studied in PRINCE, the five-year survival rate is less than 5%¹.

The findings are part of a recent analysis of data from the PRINCE trial, sponsored by PICI, and designed on the basis of decades of research by lead Principal Investigator Robert Vonderheide, M.D., D.Phil., and others at the University of Pennsylvania. The trial involved seven PICI network institutions and uncovered various predictive biomarkers associated with longer overall survival for a subset of mPDAC patients.

¹ <https://www.cancer.org/cancer/pancreatic-cancer/detection-diagnosis-staging/survival-rates.html>

The PRINCE trial evaluated the combination of standard-of-care chemotherapy (gemcitabine + nab-paclitaxel) and nivolumab, a PD-1 inhibitor, and/or sotigalimab, an experimental antibody that is an agonist of the CD40 protein. As part of exploratory analyses, PICI researchers discovered distinct biosignatures associated with survival for the nivolumab-chemotherapy and sotigalimab-chemotherapy treatment arms, which reflect each immunotherapy's distinct mechanisms of action. Few biomarkers predicted survival in patients receiving the sotigalimab-nivolumab-chemotherapy regimen.

"While the data from the trial suggest that these treatment regimens may not be appropriate for all PDAC patients, we uncovered various predictive biomarkers from the circulation and tumor that may correlate with longer survival and warrant further study," said Lacey Padron, Ph.D., Vice President, Informatics at PICI and lead study author. "We are encouraged by the data and believe chemoimmunotherapy combinations may improve outcomes for some patients with metastatic PDAC. Following up on these results, the scientific community can work to better understand who is most likely to benefit and why."

The [PRINCE trial](#) was conducted in collaboration with:

- Bristol Myers Squibb, which provided nivolumab
- Apexigen, which provided sotigalimab
- Cancer Research Institute

In addition to the University of Pennsylvania, participating research sites from the PICI network include the Dana-Farber Cancer Institute, Memorial Sloan Kettering Cancer Center, Stanford Medicine, University of California, Los Angeles, University of California, San Francisco and The University of Texas MD Anderson Cancer Center.

"The PRINCE trial illustrates how this groundbreaking clinical research fostered collaboration between clinicians, researchers, nonprofits and industry, with the goal of bringing innovative treatments to patients faster," said Ute Dugan, M.D., Ph.D., Chief Medical Officer of PICI. "We look forward to building on these interesting results."

PDAC remains one of the most intractable challenges in oncology. Pancreatic cancer, the third-leading cause of cancer death in the U.S. in 2020, is predicted to become the No. 2 cause of cancer death in the U.S. by 2040². In the metastatic setting, while combination chemotherapy reliably offers tumor control and clinical stabilization, both standard regimens of gemcitabine plus nab-paclitaxel and FOLFIRINOX (oxaliplatin, irinotecan, fluorouracil and leucovorin) are limited in response durability and incur toxicity. Thus, new treatment strategies for this disease are urgently needed.

"The identification of signals that may help predict clinical outcomes for pancreatic cancer patients receiving combination treatment with chemotherapy and immunotherapy has significant potential to save more lives, as oncologists will be better equipped to design optimal treatment plans for their patients based on the presence or absence of these signals," said Jill O'Donnell-Tormey, Ph.D., Chief Executive Officer and Director of Scientific Affairs at the Cancer Research Institute.

The PRINCE trial is a collaborative research effort designed to work towards advancing more efficacious therapies that can create durable response, and ultimately remission, in patients. The

² <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2778204>

translational work highlighted at ASCO and in Nature Medicine has identified biological signals in the blood and tumor that may uncover which patients have longer survival after these combination treatment regimens. The goal of this research is to one day predict via a simple test ahead of time whether a patient stands to benefit from a particular chemoimmunotherapy regimen.

“While scientific and medical advances in immunotherapy are helping to turn cancer into a curable disease for many patients, pancreatic cancer presents unique challenges that deserve the attention of the greatest scientific minds,” said William Hoos, cancer research and collaboration lead at 1440 Foundation, a nonprofit that funds innovative pancreatic cancer research and collaboration, including support for the [REVOLUTION study](#) of novel immunotherapy combinations in pancreatic cancer, at PICI. “The potential for a biomarker selection strategy to identify the right immunotherapy combination for each patient holds potential for progress in pancreatic cancer. These new findings suggest next steps for researchers, and hope for pancreatic cancer patients and their families. We look forward to continued progress in this promising field.”

More Information about the ASCO Presentation

Title: [Distinct biosignatures associate with survival after chemoimmunotherapy in a randomized, three-arm phase II study in patients with metastatic pancreatic cancer](#)

Abstract No.: 4010

Session: Clinical Science Symposium: Can We Begin to Predict Responders to Targeted Therapy in Gastrointestinal Cancer?

Location: McCormick Place, Hall D1 (in person and via livestream)

Date and Time: Friday, June 3, 2022, 5:30-7 p.m. ET/4:30-6 p.m. CT/2:30-4 p.m. PT

Lead Author and Presenter: Lacey Padron, Ph.D., Vice President, Informatics at PICI

The study's comprehensive clinical and immunologic findings, [“Sotigalimab and/or nivolumab with chemotherapy in first-line metastatic pancreatic cancer: Clinical and immunologic analyses from the randomized Phase 2 PRINCE trial,”](#) were published in the peer-reviewed journal Nature Medicine. The study authors conclude the Phase Ib/II study is a first step toward characterizing which patients may derive clinical benefit from these chemoimmunotherapy regimens by having identified potential biomarkers that can now be validated prospectively to determine if this allows for minimally invasive biomarker-enrichment designs for chemoimmunotherapy treatment in metastatic PDAC.

“The presentation and publication of these results in pancreatic cancer underscore PICI’s commitment to advancing our understanding of the toughest tumor types,” said John Connolly, Ph.D., Chief Scientific Officer of PICI. “This shared knowledge can help patients, clinicians and researchers, alike, combat this deadly disease.”

About Pancreatic Cancer

Pancreatic cancer is one of the deadliest types of tumors, and the number of diagnosed cases continues to rise each year. The disease is often difficult to catch early, such that by the time most people are diagnosed, their cancer is advanced and may have already spread. In addition, the tumors usually contain a variety of mutations, which often means a single targeted therapy isn't enough to stop the disease by itself. For patients diagnosed with advanced metastatic pancreatic ductal adenocarcinoma (mPDAC), the five-year survival rate is less than 5%.

About the Parker Institute for Cancer Immunotherapy

The Parker Institute for Cancer Immunotherapy (PICI) is radically changing how cancer research is done. Founded in 2016 through a \$250 million gift from Silicon Valley entrepreneur and philanthropist Sean Parker, the San Francisco-based nonprofit is an unprecedented collaboration between the country's leading immunotherapy researchers and cancer centers. The PICI Network of research institutions includes Memorial Sloan Kettering Cancer Center, Stanford Medicine, the University of California, Los Angeles, the University of California, San Francisco, the University of Pennsylvania, and The University of Texas MD Anderson Cancer Center. The institute also supports top researchers at other institutions, including the Dana Farber Cancer Institute, City of Hope, Fred Hutchinson Cancer Research Center, Icahn School of Medicine at Mount Sinai, Institute for Systems Biology, and Washington University School of Medicine in St. Louis. By forging alliances with academic, industry, and nonprofit partners, PICI makes big bets on bold research to fulfill its mission: to accelerate the development of breakthrough immune therapies to turn all cancers into curable diseases. Find out more at www.parkerici.org and follow us on [LinkedIn](#) and Twitter [@parkerici](#).

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