PRESS RELEASE





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Immunovia, OHSU collaborating on early detection test for pancreatic cancer

LUND, Sweden, and PORTLAND, Oregon — Immunovia AB and the Knight Cancer Institute at Oregon Health & Science University (OHSU) formed a collaboration to confirm, validate and commercialize a blood test for the early diagnosis of pancreatic cancer. The test called IMMray™ PanCan-d analyses a patient's immune system for early signs of disease. The collaboration will also enable researchers to explore biomarkers for a number of other cancer types.

Pancreatic cancer is one of the deadliest forms of cancer, with a five-year survival rate of about 6 percent. It is the second most common cause of cancer-related deaths in the United States. When caught early, pancreatic cancer survival can be significantly improved by removing tumours surgically. Given that patients rarely exhibit symptoms until the disease has progressed, screening tests are needed to find tumors when they are amenable to curative surgery. Screening tests that look for single biological markers of the disease are ineffective because they don't discriminate between pancreatic cancer and less deadly conditions such as chronic pancreatitis, liver cirrhosis and other gastrointestinal cancers, as well as having a too low sensitivity vs. healthy individuals.

In contrast, Immunovia's test platform, IMMray™, creates a biological snapshot of an individual's immuneresponse by analysing serum proteins that change as a sign of disease.

The OHSU Knight Cancer Institute's scientists will help confirm the analytes used by IMMray™ PanCan-d by validating the test's findings on blood samples collected from consenting patients with pancreatic ductal adenocarcinomas.

"Today's collaboration with the OHSU Knight Cancer Institute represents a major milestone in the clinical validation and the US commercialization of Immunovia's first test, IMMray™ PanCan-d, which has been developed for early diagnosis of pancreatic cancer in blood. Our goal is to establish IMMray™ PanCan-d as a standard amongst pancreatologists and diabetes physicians worldwide for detecting pancreatic cancer in highrisk groups much earlier than is possible today", emphasized Mats Grahn, Chief Executive Officer of Immunovia.

Professor Carl Borrebaeck, Chairman of the Board of Directors and Founder of Immunovia continued: "We are very excited to enter into this collaboration as both the OHSU Knight Cancer Institute and Immunovia share the same vision: to significantly improve the survival rates and life quality of the patients and their families, by early detection of this deadly cancer."

Immunovia sought a collaboration with the OHSU Knight Cancer Institute because of its commitment to early detection of cancer, as well as the depth of data collected on its patient samples through OHSU's Brenden-Colson Center for Pancreatic Care, which is co-directed by OHSU's Brett C. Sheppard, M.D., and Rosalie C. Sears, Ph.D., and the expertise of its molecular diagnostics laboratories, headed by Christopher Corless, M.D., Ph.D. The OHSU Knight Cancer Institute has plans to launch one of the first large-scale precision early detection research programs of its kind after raising \$1 billion in funding.

The collaboration between Immunovia and the OHSU Knight Cancer Institute will use the Brenden-Colson Center samples together with matched controls to run a retrospective study to verify, in a U.S. population, the findings of previous studies from Europe and China. The Brenden-Colson registry blood samples were collected

at time of diagnosis, before, during and after treatment. The clinical validation study will cover about 600 samples with different stages of pancreatic cancer, matched controls as well as patients with chronic pancreatitis.

After the test has been confirmed, the OHSU Knight Diagnostic Laboratories will validate it for clinical application; the laboratories are Clinical Laboratory Improvement Amendments (CLIA) certified and accredited by the College of American Pathologists (CAP).

"If we're going to make a significant impact on patients' lives and improve their chances of survival, we need to detect cancer earlier when it's most treatable. The immune system provides an early warning system that is invaluable in that effort," said Brian Druker, M.D., director of the OHSU Knight Cancer Institute. "We expect that our collaboration with Immunovia will not only improve the kind of screening tests available, but it will also allow us to intervene earlier in the course of the disease."

If validated, Immunovia's pancreatic cancer specific test, IMMray™ PanCan-d, could be the first blood-based test available for early and specific diagnosis of pancreatic cancer. It could provide physicians with actionable information early enough for the cancer to be removed surgically.

IMMray™ combines many years of clinical immunoproteomics research from Lund University, the development of unique serum protein biomarker signatures, and a state-of-the-art bioinformatics algorithm and software to interpret clinical test data from a variety of major diseases. Each blood sample is analysed and characterized using a disease-specific antibody microarray targeting a multiplex panel of biomarkers. A simple blood test thus provides all the necessary information for enabling early diagnosis, as well as for following disease progression, and/or therapy monitoring.

The OHSU Knight Cancer Institute and Immunovia plan to work on tests for other cancers using the same technology. The OHSU Knight Cancer Institute will also use the test platform to advance its work in developing precision cancer treatments and, eventually, the technology will be employed as part of its large-scale precision early detection research program. The early detection program is made possible by the successful completion of the \$1 billion Knight Cancer Challenge campaign which was launched after a \$500 million pledge from Nike co-founder Phil Knight and his wife Penny.

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About Immunovia

Immunovia AB was founded in 2007 by investigators from the Department of Immunotechnology at Lund University and CREATE Health, the Center for Translational Cancer Research in Lund, Sweden. Immunovia's strategy is to decipher the wealth of information in blood and translate it into clinically useful tools to diagnose complex diseases such as cancer, earlier and more accurately than previously possible. Immunovia's core technology platform, IMMray™, is based on antibody biomarker microarray analysis. The company is now performing clinical evidence validation studies for the commercialization of IMMray™ PanCan-d the first blood based test for early diagnosis of pancreatic cancer. (Source: www.immunovia.com)

About Knight Cancer Institute at Oregon Health & Science University (OHSU)

The Knight Cancer Institute at Oregon Health & Science University helped pioneer the field of precision cancer medicine. The institute's director, Brian Druker, M.D., proved it was possible to shut down just the cells that enable cancer to grow without harming healthy cells. This research breakthrough has made possible precision treatments that have transformed once-fatal forms of the disease into manageable conditions. The OHSU Knight Cancer Institute is the only National Cancer Institute-designated Cancer Center between Sacramento and Seattle — an honor earned only by the nation's top cancer centers. It offers the latest treatments and technologies as well as hundreds of research studies and clinical trials.

Particulars

Carl Borrebaeck, Prof., is currently the Director of CREATE Health, a Translational Cancer Center at Lund University; chairman of the Department of Immunotechnology and the previous Vice-President of Lund University, Sweden (responsible for its Innovation systems). He is the President of the Board of Directors and one of the founders of Immunovia.

Brian Druker, M.D., is director of the Oregon Health & Science University Knight Cancer Institute, associate dean for oncology in the OHSU School of Medicine, JELD-WEN Chair of Leukemia Research at OHSU, and a Howard Hughes Medical Institute investigator.

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