PRESS RELEASE

Xcell Biosciences Initiates New Collaborations with UCSF Researchers Studying Effectiveness of Immunotherapy in Urologic Cancers

Studies Assess the Ability to Predict Prognosis and Response to Therapies by Immunoprofiling of Patients' Blood, Cultured and Conditioned with Xcell's Unique Avatar System

San Francisco – September 22, 2016 – Xcell Biosciences, Inc., announced today that it has extended its collaborative work with the University of California, San Francisco (UCSF) to include working with three principal investigators on pilot studies using Xcell's Avatar cell culture system and proprietary analytics platform. The work will determine if large scale RNA profiling from peripheral blood and other patient-derived sample sources cultured in the Avatar System and correlated to clinical outcomes can predict a patient's response to first or second line treatments in prostate, bladder and kidney cancers.

Charles J. Ryan, MD, Professor of Clinical Medicine and Urology and the Clinical Program Leader for Genitourinary Medical Oncology at the UCSF Helen Diller Family Comprehensive Cancer Center, has been collaborating with Xcell for several years on a number of projects. The latest involves studying the relationship between genomic variation in prostate cancer patient samples and response to treatment, including in patients who have developed resistance to standard of care therapies.

"We are particularly enthusiastic about the opportunity to use the Avatar system to compare results from liquid biopsies to actual tissue biopsies," said Dr. Ryan. "We also are optimistic about the ability to use the system to look at broad-scale genomic alterations in cancer patients without the necessity for looking at circulating tumor cells, cell free DNA or tissue biopsies. Xcell's system offers the opportunity to look at different types of analysis all with one blood draw – for example, potential relationships between immunology, androgen receptors, and DNA repair in prostate cancer."

Terry Friedlander, MD, Associate Clinical Professor of Medicine at UCSF, is collaborating on studies involving prostate and bladder cancer. "We are excited about this collaboration and the potential ability to use the Avatar system as an immunologic springboard," he said. "Predicting treatment response is a huge unanswered question in oncology in general. If the Avatar system can keep the cells in the same state that they were in the body, we may get a more accurate read on the activation status of the immune system and determine markers that might help predict response to treatment."

UCSF medical oncologist Won Kim, MD, who is leading a study in kidney cancer, added: "Kidney cancer is a disease where we have a real shortage of predictive and prognostic biomarkers. For this pilot study, we're hopeful that we will show that the data generated from Xcell's platform will help us identify which patients with renal cell cancer are more likely to respond to tyrosine kinase inhibitors or immunotherapy. We all want these feasibility studies to succeed because there are so many cancers where tissue is just not easy to access."

James Lim, PhD, Chief Scientific Officer at Xcell Biosciences, commented, "We are delighted to continue our collaborative work with UCSF, a leading center for cancer clinical research, on these new studies. We believe our RNA-based whole transcriptome approach to liquid biopsy will enable us to generate unique gene expression signatures that will predict a patient's response to a given therapeutic. Our goal is to ultimately demonstrate evidence that the Avatar system's physiologically relevant microenvironments can provide unparalleled and previously unavailable diagnostic insights enabling oncologists to treat patients more effectively and also at the right time."

About the Avatar System

The Avatar system, including a benchtop and stackable instrument and consumables for a number of applications, enables a new generation of cell-based assays by allowing for complete control of key physiological conditions found in the microenvironments of cells, including settings for pressure, oxygen, temperature and CO_2 levels. In addition to enabling culture of difficult samples such as tumor biopsies and primary samples, the system overcomes limitations of traditional cell culture to generate results that exhibit the phenotypic, genomic and proteomic characteristics of the native sample.

For more information, visit www.xcellbio.com.

About Xcell Biosciences, Inc.
Xcell Biosciences, Inc., is developing revolutionary products and workflows for life science and translational research that reproduce physiologically relevant conditions to enable more meaningful, biologically relevant experiments. The company's tools empower scientists to obtain accurate and actionable results in important fields such as cancer research, biomarker discovery, lead candidate selection and optimization, stem cell research and regenerative medicine, and immunotherapy drug development. Xcell's first product, the Avatar™ system, opens the door for a new generation of cell-based assays by allowing for complete control of key physiological conditions found in cellular microenvironments. In addition to enabling culture of difficult samples such as tumor biopsies and primary samples, the system overcomes limitations of traditional cell culture to generate results that exhibit the phenotypic, genomic and proteomic characteristics of the native sample. Based in San Francisco, Xcell Biosciences has raised more than $5M from Viking Global, DST Global, Lightspeed Venture Partners, and HBM Genomics, as well as a number of other angel investors and funds.

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