

Genome Profiling, Fox Chase Cancer Center to Collaborate on Immune System Blood Test to Predict Checkpoint Inhibitor Response in Non-Small Cell Lung Cancer

By Genome Profiling, LLC; Fox Chase Cancer Center;

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PHILADELPHIA, July 21, 2020 /PRNewswire/ -- [Genome Profiling](#) and Fox Chase Cancer Center will collaborate to identify a novel immune system epigenetic biomarker, dubbed EpiMarker, which if successful, will be used to help predict which lung cancer patients are likely to respond to a checkpoint inhibitor therapy known as anti-PD1 antibody. These agents are a potentially valuable tool for lung cancer treatment, but it remains very difficult for doctors to predict which patients are most likely to benefit from them.

Genome Profiling will use its proprietary machine-learning platform and method to identify an interactive network of genomic DNA methylation sites in the circulating immune cells of patients that is predictive of response.

Current tests to guide clinical decision making for checkpoint inhibitors require an invasive tumor biopsy from the chest cavity. The testing method, however, has limited accuracy and predictive power and it is expensive. It is also difficult and painful for the patient and can lead to adverse events, including collapsed lungs. The potential for having a blood based test like the proposed use of EpiMarker that discriminates based on the biology of immune cells would be a valuable advance.

Presuming success in the discovery phase of the collaboration, a second step will be to translate the response prediction of the EpiMarker into a simple blood test that can be ordered by the diagnosing physician to guide treatment decisions. Genome Profiling is funding the collaboration and Fox Chase is providing patient blood samples and clinical expertise.

"Despite the tremendous advances in lung cancer care driven by the availability of anti-PD1 antibodies, only a minority of patients experience significant and long-lasting benefit," said Hossein Borghaei, DO, MS, chief of Thoracic Oncology at Fox Chase.

"With current approaches it's difficult to know exactly which patients will benefit, and improving that diagnostic ability is a key focus in the lung cancer immuno-oncology field," Borghaei added.

"We are privileged to be able to work closely with Dr. Borghaei and Fox Chase's renowned team of researchers and clinicians," said Adam Marsh, PhD, Genome Profiling's chief science officer and cofounder. "Their clinical knowledge and insights are a tremendous complement to Genome Profiling's expertise. The collaboration has great potential to result in better patient care practices and to avoid unnecessary treatment side effects and costs."

About Fox Chase Cancer Center

The Hospital of Fox Chase Cancer Center and its affiliates (collectively "Fox Chase Cancer Center"), a member of the Temple University Health System, is one of the leading cancer research and treatment centers in the United States. Founded in 1904 in Philadelphia as one of the nation's first cancer hospitals, Fox Chase was also among the first institutions to be designated a National Cancer Institute Comprehensive Cancer Center in 1974. Fox Chase researchers have won the highest awards in their fields, including two Nobel Prizes. Fox Chase physicians are also routinely recognized in national rankings, and the Center's nursing program has received the Magnet recognition for excellence five consecutive times. Today, Fox Chase conducts a broad array of nationally competitive basic, translational, and clinical research, with special programs in cancer prevention, detection, survivorship and community outreach. It is the policy of Fox Chase Cancer Center that there shall be no exclusion from, or participation in, and no one denied the benefits of, the delivery of quality medical care on the basis of race, ethnicity, religion, sexual orientation, gender, gender identity/expression, disability, age, ancestry, color, national origin, physical ability, level of education, or source of payment. For more information, call 1-888-FOX CHASE or (1-888-369-2427).

About Genome Profiling, LLC

Genome Profiling (GenPro) is a digital health functional genomics company enabled by its proprietary, cloud-based, machine learning bioinformatics platform. What is special is the platform's ability to rapidly decode the sentinel power of our immune system's response to the stressors of disease into a new category of clinically actionable biomarkers —blood-based immune system epigenetic biomarkers called EpiMarkers. Once discovered and validated (< 10 weeks), GenPro translates novel EpiMarkers into non-invasive blood tests that address big underserved drug response prediction and diagnostic opportunities that tumor and mutation based techniques cannot easily address in immuno-oncology and non-tumor diseases such as neurologic, infectious, auto-immune, and others.

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