



The Wistar Institute and OncoCyte Corporation Expand Agreement to Develop Molecular Diagnostic Test for the Detection of Lung Cancer

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– Agreement provides for continued development of a liquid biopsy test designed to aid physicians in the early, non-invasive detection of lung cancer

PHILADELPHIA & ALAMEDA, Calif.–(BUSINESS WIRE)–Aug. 18, 2015– The Wistar Institute and BioTime, Inc. (NYSE MKT and TASE: BTX) announced that Wistar and BioTime’s subsidiary OncoCyte Corporation, have expanded their collaborative relationship to develop a simple, non-invasive, blood-based test designed to aid physicians in the early detection of lung cancer. This expanded collaboration follows earlier clinical trials, the interim results of which were presented at the May 2015 American Thoracic Society (ATS) International Conference. Wistar is an international biomedical research leader in cancer, immunology and infectious diseases. OncoCyte is a developer of novel, non-invasive liquid biopsy products for the early detection of cancer.

In October 2013, OncoCyte entered into a Sponsored Research Agreement with The Wistar Institute, a National Cancer Institute-designated cancer center, to develop and test potential lung cancer biomarkers identified by Dr. Louise Showe, Ph.D., professor in Wistar’s Molecular and Cellular Oncogenesis Program. Under the new expanded agreement, OncoCyte and Wistar will continue their collaboration with the goal of developing a highly sensitive and specific diagnostic test for the early detection of lung cancer. Critical to the success of the next phase of the research and development program will be the analysis of an expanded patient sample set, the transition of sample analysis to a platform capable of commercial scale operations, confirmation of mRNA and miRNA expression, and completion of diagnostic test verification activities.

“I look forward to continuing this productive relationship between my lab at Wistar and our collaborators at OncoCyte,” said Dr. Showe, professor, Wistar’s Molecular and Cellular Oncogenesis Program; associate director, Center for Systems and Computational Biology; scientific director, Genomics Facility; and scientific director, Bioinformatics Facility. “Lung cancer takes a terrible toll on life and productivity every year. We hope we can impact that toll in some meaningful way, through the ongoing studies.”

“We look forward to building on the initial success of our partnership with The Wistar Institute, and are excited about our progress to date,” said William Annett, Chief Executive Officer of OncoCyte. “As we continue to develop our liquid biopsy for the early detection of lung cancer, we are enthusiastic about the opportunity to have a major impact on the lives of those that suffer from lung cancer.”

Interim Results from Initial Agreement

In May 2015, OncoCyte and The Wistar Institute announced the interim results of a large, clinical study conducted by Dr. Showe and funded by OncoCyte. The clinical interim results from a blood-based

diagnostic test for non-invasive detection of lung cancer were presented at the American Thoracic Society (ATS) International Conference. These results from the assayed samples demonstrated a high level of observed sensitivity and specificity of a simple blood-based test designed to aid physicians in the early detection of lung cancer. Performance of the classifier was evaluated using several criteria, including Receiver Operating Characteristic (ROC) area under the curve (AUC) analysis, and yielded an AUC of 0.88 (sensitivity of 76% with a specificity of 88%) in the test set.

Dependent on achieving successful scientific and technical results at this stage of development, OncoCyte and Wistar will proceed to final validation of the test with the goal of completing that work in 2016 to enable OncoCyte to commercially launch the lung diagnostic test.

OncoCyte has exercised options to obtain exclusive licenses to any inventions, discoveries or technology developed in the course of the collaborative research and expects to finalize definitive license agreements with Wistar in the near future.

Lung cancer remains a primary cause of cancer-related death in part because there is no effective diagnostic test to screen patients for lung cancer at an early stage. Annual screening for lung cancer in certain high-risk patients was recently recommended by the United States Preventive Services Task Force (USPSTF), an independent panel of experts in primary care and prevention that systematically reviews the [evidence of effectiveness](#) and develops recommendations for clinical preventive services. The Task Force recommended screening using low-dose computed tomography (CT) scans. Although low-dose CT scans have demonstrated high sensitivity in detecting early-stage lung cancer in large clinical studies, it also has a relatively high false-positive rate of approximately 25%. False positives can lead to unnecessary costs and side effects due to the need for highly-invasive diagnostic procedures such as bronchoscopies and lung biopsies.

Large-scale screening of patients at high risk for lung cancer, an estimated seven to ten million patients per year in the U.S., could reduce overall lung cancer mortality through earlier detection. However, the high number of false-positive low-dose CT tests could lead to significant unnecessary costs to the U.S. health care system as a result of associated follow-up testing. Physicians, payers, and patients may therefore welcome a simple to use, low-cost, blood-based test that can help guide patient-management decisions by noninvasively ruling out the presence of cancer.

About OncoCyte Corporation

OncoCyte is focused on the development of novel, non-invasive liquid biopsy products for the early detection of cancer.

The company believes that early detection of cancer will improve the quality and length of life of cancer patients. While current diagnostic tests use invasive surgical procedures to provide tissue samples in order to determine if a tumor is benign or malignant, next generation diagnostic tests will be liquid biopsies using blood or urine samples.

Based on their large market sizes and high unmet medical needs, OncoCyte is initially focusing its efforts on developing liquid biopsy products for detecting lung, bladder and breast cancer. Clinical studies are underway in all three products. OncoCyte's products are based on a proprietary set of cancer markers characterized, in part, by broad gene expression patterns in numerous cancer types.

OncoCyte is a partially owned subsidiary of BioTime, Inc., a pioneer in regenerative medicine and a clinical-stage biotechnology company. BioTime and its subsidiaries are leveraging their industry-leading experience in pluripotent stem cell technology and a broad intellectual property portfolio to facilitate the

development and use of cell-based therapies and gene marker-based molecular diagnostics for major diseases and degenerative conditions for which there presently are no cures.

BioTime common stock is traded on the NYSE MKT under the symbol BTX. For more information, please visit www.biotimeinc.com or connect with the company on [Twitter](#), [LinkedIn](#), [Facebook](#), [YouTube](#), and [Google+](#).

About The Wistar Institute

The Wistar Institute is an international leader in biomedical research with special expertise in cancer research and vaccine development. Founded in 1892 as the first independent nonprofit biomedical research institute in the country, Wistar has long held the prestigious Cancer Center designation from the National Cancer Institute. The Institute works proactively to ensure that research advances move from the laboratory to the clinic as quickly as possible. Wistar's business development team is dedicated to advancing Wistar Science and Technology Development through creative partnerships. Wistar Science Saves Lives. On the Web at www.wistar.org.

FORWARD-LOOKING STATEMENTS

Statements pertaining to future financial and/or operating results, future growth in research, technology, clinical development, and potential opportunities for BioTime and its subsidiaries, along with other statements about the future expectations, beliefs, goals, plans, or prospects expressed by management constitute forward-looking statements. Any statements that are not historical fact (including, but not limited to statements that contain words such as "will," "believes," "plans," "anticipates," "expects," "estimates") should also be considered to be forward-looking statements. Forward-looking statements involve risks and uncertainties, including, without limitation, risks inherent in the development and/or commercialization of potential products, uncertainty in the results of clinical trials or regulatory approvals, need and ability to obtain future capital, and maintenance of intellectual property rights. Actual results may differ materially from the results anticipated in these forward-looking statements and as such should be evaluated together with the many uncertainties that affect the business of BioTime and its subsidiaries, particularly those mentioned in the cautionary statements found in BioTime's Securities and Exchange Commission filings. BioTime disclaims any intent or obligation to update these forward-looking statements.

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