



PROTEOME SCIENCES AND BUCK INSTITUTE TO DEVELOP BIOMARKER TESTS TO IMPROVE BREAST CANCER TREATMENT

14 July 2011 – London, UK & Novato, California; Proteome Sciences plc (“Proteome”) a global leader in biomarkers will collaborate with Buck Institute for Research on Aging (“Buck”) to develop personalized molecular tests for estrogen receptor alpha (ER α) aimed at improving outcomes in breast cancer.

Under the agreement, Proteome will support development of clinical mass spectrometry assays measuring molecular changes in ER α that have been shown to be associated with response to anti-estrogen therapies in breast cancer. At present, 80% of breast cancers are characterized by increased expression of ER α which can be treated with therapies such as tamoxifen. However, over one third of ER α positive patients never respond to treatment and of those who do respond, 30-50% become resistant during treatment. There is currently no way of reliably measuring these changes.

The Principal Investigator at the Buck Institute, Professor Chris Benz, MD commented:

“In recent years we have begun to understand the role that certain proteins play in the evolution and response to treatment of breast cancer. In particular, we have been studying how tumours become resistant to our most commonly used therapeutics like the anti-estrogen tamoxifen. Our proteomics and interdisciplinary research at the Buck Institute has led to the identification of key post-translational modifications (PTMs) in ER α that lead to drug resistance. Because PTM’s cannot be detected or predicted by genomic tests, mass spectrometry is used to detect PTM’s directly in the tumour. With Proteome’s support and expertise, we expect to rapidly translate this into routine tests that significantly improve the predictive clinical value of this important breast cancer biomarker.”

Dr. Ian Pike, COO of Proteome Sciences added:

“Clinical oncologists urgently need better tools to select the most effective treatments in breast cancer and to monitor a patient’s response to a specified course of treatment. We are delighted to be working with the Benz group at the Buck Institute to develop mass spectrometry tests for early detection and monitoring of drug resistance, addressing this critically important unmet need.”

“By combining our expertise, we will be able to rapidly convert fundamental scientific research into targeted protein assay products enabling better treatment choices through biomarker-guided selection of the most appropriate targeted therapies. Together with regular monitoring of resistance markers during treatment, the outcome for breast cancer patients will significantly improve.”

“It is a key part of our business to combine our protein biomarker expertise and techniques with the best clinical research from around the world to deliver innovative new clinical tests. We provide early access to a growing range of these tests and services through our PS Biomarker Services™ Division.”

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Notes to Editors:

About Estrogen Receptor Alpha (ER α) in Breast Cancer

Estrogen Receptor alpha is one of the oldest and most widely used cancer biomarkers and is endorsed by the American Society of Clinical Oncologists. Testing for ER α is routinely performed on biopsy material and forms the basis of a decision to treat with anti-estrogen agents such as tamoxifen. More recently alternate anti-androgen therapies are also indicated when ER α is present and can offer an alternative therapy if tamoxifen resistance is identified or suspected. Approximately 80% of breast cancers are characterized by increased expression of estrogen receptor alpha (ER α). However, ER α expression alone is not predictive of treatment outcome. Over one third of ER α positive patients never respond to treatment. In responders there is a high chance of resistance developing with 30 - 50% becoming resistant during treatment. Research at the Buck Institute has shown that when ER α carries certain modifications to the protein backbone it is no longer sensitive to current treatments and can lead to tumour outgrowth and disease progression. Detecting these changes routinely would allow better initial selection of treatment and earlier intervention if markers of resistance become visible. Since these changes are not encoded in the ER α gene they must be detected using sophisticated proteomics tools such as mass spectrometry.

About Proteome Sciences

Proteome Sciences is a global leader in applied proteomics and peptidomics offering high sensitivity, proprietary technologies for protein and peptide biomarker discovery, validation and assay development.

Its PS Biomarker Services™ uses isobaric and isotopic Tandem Mass Tag® (TMT®) workflows developed on the latest Orbitrap Velos and TSQ Vantage mass spectrometers to deliver rapid, robust and reproducible biomarker assay development for customers in the pharmaceutical, diagnostic and biotechnology sectors. Services are provided from its ISO 9001: 2008 accredited facilities in Frankfurt, Germany. By combining Selected Reaction Monitoring (SRM) and TMT workflows highly multiplexed assays can be developed rapidly and are suitable for screening hundreds of candidate biomarkers in larger validation studies and can be transferred for immunoassay development. The Company's own research has discovered a large number of novel protein biomarkers in key human diseases and is focused mainly in neurological/neurodegenerative conditions and in cancer. It has discovered and patented blood biomarkers, including Alzheimer's disease, stroke, brain damage and lung cancer for diagnostic and treatment applications that are available for license or are already outlicensed. Proteome Sciences, based in Cobham, UK, with facilities in London and Frankfurt, delivers outsourced proteomics services and proprietary biomarkers/biomarker assays to pharmaceutical, biotechnology and diagnostics companies.

Visit: <http://www.proteomics.com>.

About the Buck Institute for Research on Aging

The Buck Institute is the first freestanding institute in the United States that is devoted solely to basic research on aging and age-associated disease. The Institute is an independent nonprofit organization dedicated to extending the healthspan, the healthy years of each individual's life. Buck Institute scientists work in an innovative, interdisciplinary setting to understand the mechanisms of aging and to discover new ways of detecting, preventing and treating conditions such as Alzheimer's and Parkinson's disease, cancer, cardiovascular disease and stroke. Collaborative research at the Institute is supported by new developments in genomics, proteomics and bioinformatics technology.

Visit: <http://www.thebuck.org>.