



Proteome Sciences plc
("Proteome Sciences")

DEEP PROTEIN PROFILING KEY TO IMPROVING CANCER TREATMENT

For immediate release: 5th April 2016; Cobham, UK. As global experts in mapping and analysis of protein changes in systems-wide biology, Proteome Sciences plc is strongly encouraged by two recent reports that emphasise the importance of protein profiling to improve outcomes in cancer treatment. These highlight the growing need for more detailed, personal assessment of protein profiles to improve the management of cancer treatment.

In the first study two groups from University College London and Cancer Research UK demonstrated that genetic mutations in cancer can lead to changes in the proteins on the cell surface¹. These are new sequences which are seen as foreign by the body's immune system and , with appropriate immunotherapy, the level of response in lung cancer was greatly enhanced. However many of the patients with these types of mutations unfortunately still did not respond which highlighted the need for deeper analysis of the protein expression in tumours in order to better appreciate the mechanisms that contribute to treatment failure.

The second study, led by Professor Nigel Bundred of Manchester University, reported that use of two drugs that act on the same breast cancer target, an over-expressing protein called Her-2, were able to eradicate detectable tumours in around 10% of those treated in just 11 days, with 87% of those treated having a proteomic change indicating cells had stopped growing and/or cell death had increased². Whilst these results appear very promising it is worth noting that the over-expressing Her-2 target is only present in about 20% of breast tumours meaning this combination therapy was successful in clearing tumours in just 2% of the total breast cancer population.

Dr. Ian Pike, Chief Operating Officer of Proteome Sciences commented,

"Both these recent studies should rightly be recognised as important steps forward towards better cancer treatment. However, in order to overcome the limitations of current drug therapy programs, a much deeper and more comprehensive analysis of the complex protein networks that regulate tumour growth and survival is required and will be essential to achieve a major advance in the battle to treat cancer.

"Our SysQuant® workflows provide that solution. As an example, in pancreatic cancer³ we have successfully mapped the complex network of regulatory processes and demonstrate the ability to devise personalised treatment combinations on an individual basis for each patient.

A retrospective study with SysQuant® to predict response to the targeted drug Sorafenib in liver cancer is in process and we are planning further prospective trials to guide personalised treatment selection in liver cancer.

“We are already delivering systems-wide biology solutions through SysQuant® and TMTcalibrator™ programs to our clients that are generating novel biological data and results using more sensitive profiling that are helping them to better understand their drug development programs and to provide new biomarkers for tracking patient response in clinical trials.

“We are strongly positioned to deliver more comprehensive analysis of proteins and cellular pathways across other areas of disease and in particular to extend the use of SysQuant® with other leading cancer research groups in liver and other cancers.”

Proteome Sciences has also expanded its offering in personalised medicine through the use of its TMTcalibrator™ technology to uniquely identify protein biomarkers that reveal active cancer and other disease processes in body fluid samples. The importance of these ‘mechanistic’ biomarkers is that they are essential to monitor that drugs are being effective and that they can be used as early biomarkers of disease recurrence.

Using SysQuant® and TMTcalibrator™, Proteome Sciences can deliver more comprehensive analysis and provide unparalleled levels of sensitivity and breadth of coverage of the proteome, enabling faster, more efficient drug development and more accurate disease diagnosis.

References:

1 – McGranahan et al. Clonal neoantigens elicit T cell immunoreactivity and sensitivity to immune checkpoint blockade. Science 10.1126/science.aaf490 (2016)

2 – Daily Telegraph, London UK, 11.03.2016 Pages 1 and 4 reporting on Prof. Bundred presentation at 10th European Breast Cancer Conference in Amsterdam

3 – Britton D, Zen Y, Quaglia A, Selzer S, Mitra V, Löbner C, et al. (2014) Quantification of Pancreatic Cancer Proteome and Phosphorylome: Indicates Molecular Events Likely Contributing to Cancer and Activity of Drug Targets. PLoS ONE 9(3): e90948. doi:10.1371/journal.pone.0090948

For further information please contact:

Proteome Sciences plc

Christopher Pearce, Executive Chairman

Dr. Ian Pike, Chief Operating Officer

Geoff Ellis, Finance Director

Tel: +44 (0)1932 865065

finnCap Limited (nominated adviser & broker)

Geoff Nash/James Thompson

Tel : +44 (0)20 7220 0500

Public Relations

IKON Associates

Adrian Shaw

Email: adrian@ikonassociates.com

Tel: +44 (0)1483 271291

Mobile +44(0)7979 900733

Notes for editors:

About Proteome Sciences plc (www.proteomics.com)

With its HQ in Cobham, UK and laboratory facilities in London and Frankfurt, Proteome Sciences is a global leader in applied proteomics offering high sensitivity, proprietary technologies and workflows in cell signalling pathways and in protein biomarker discovery, validation and assay development.

Proteome Sciences' research has discovered a large number of novel protein biomarkers in key human diseases with a focus mainly in neurological/neurodegenerative conditions and in cancer. It has patented blood biomarkers in Alzheimer's disease, stroke, brain damage and cancers for diagnostic and treatment applications that are available for licenses.

PS Biomarker Services[®] provides proteomics outsourcing services and proprietary biomarker assays from its ISO 9001: 2008 facility in Frankfurt, Germany to pharmaceutical, biotechnology, diagnostics companies and academia.