

Press Release – 02/06/16

Oxford BioDynamics picks Malaysia to conduct a biomarker discovery programme for diabetes and pre-diabetes

Oxford BioDynamics, a leading Oxford University spin out is sponsoring the study, and will be working together with Hospital Seberang Jaya, Penang Adventist Hospital and the Society of Diabetes Malaysia in Penang to recruit patients to the study.

Oxford, 02 June 2016; Oxford BioDynamics Limited, an Oxford, UK-based biotechnology firm, today announces the launch of its landmark study of diabetes progression in Malaysia. The study will look at the development of diabetes among 480 Malaysians over a two year period. Using data from the study Oxford BioDynamics will develop a test to provide a prognosis for people at risk of and suffering from the disease. Accounting for the completion of the study, data analysis and the regulatory process, Oxford BioDynamics thinks the tool could be available to doctors to use on at-risk patients by 2019.

The study will take a baseline measurement of participants' glucose regulation and separate them into four groups based on their glucose levels; healthy, pre-diabetic, untreated diabetic, and patients being treated for diabetes. Over the following two years subjects will provide blood samples at six month intervals, from which Oxford BioDynamics will monitor the development of type-2 diabetes in all participants, and build a model of prognosis for the disease. The model and prognostic tool will be based on epigenetic biomarkers taken from the subjects' blood samples.

Dr Lim Chun Ren, OBD Malaysia Director, and study leader said, "The International Diabetes Federation has described diabetes as an immense global challenge and in Malaysia, where one in five of the population over thirty has been diagnosed with the disease, this challenge is especially acute. We hope the outcomes of this study will have a real impact on the quality of life for Malaysians living with and at risk of type-2 diabetes. We are grateful to Penang Adventist Hospital, Diabetes Malaysia, the Hospital Seberang Jaya for their collaboration and help to deliver this important study."

"Most clinical studies involving type-2 diabetes are mainly biochemical and we are particularly excited now to collaborate with Oxford BioDynamics to study the epigenetic aspect of the disease," pointed out by Dr. Ang Hock Aun, endocrinologist of Hospital Seberang Jaya.

Dr Alexandre Akoulitchev, chief scientific officer at Oxford BioDynamics said, "There is a significant

unmet clinical need for a companion tool to provide patients with diabetes and those in a pre-diabetic state with a prognosis of their disease. Diabetes is a severely debilitating disease for individuals living with it, and as such, costly for the societies they live in. Clearer prognosis of the disease will mean better treatment for individuals at a more reasonable cost for societies. We are delighted to be advancing the opportunity for type-2 diabetes patients to have a clearer understanding and better treatment of their disease.”

At each stage of the trial participants will provide a 15ml sample of blood, taken at the health clinic through which they were recruited. The frozen samples will be delivered to the OBD reference facility in Penang where a profile of chromatin conformation signatures (CCSs) will be constructed, and added to their definition in the glucose levels stratification. CCSs indicate where environmental factors have been integrated by the body into gene expression, as such their binary nature offers a more robust and consistent biomarker target than typical DNA methylation or histone regulation analyses. A chromatin conformation signature is either there, because environmental factors have contributed to gene expression, or it is not. It is this epigenetic biomarker that Oxford BioDynamics will use to develop the prognostic tool for type-2 diabetes sufferers.

There are currently 3.2 million diabetes patients in Malaysia, in a population of 20 million adults over the age of 30, a prevalence rate of more than 16%. Global prevalence is around 9%, and growing. Prevalence of type-2 diabetes is rising in the world as diets change and waistlines grow, though because of the cost of seeking treatment, many people remain undiagnosed. Whilst the onset of type-2 diabetes cannot be reversed, the condition known as pre-diabetes, where glucose levels in the blood are abnormally raised, but not by enough to cross a threshold that would indicate the disease, can be alleviated by healthy diet and lifestyle changes.

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Notes for Editors

Oxford BioDynamics

Oxford BioDynamics Limited is a biotechnology company with a proprietary biomarker platform technology, *EpiSwitch™*, for the accelerated discovery, evaluation and validation of stratifying epigenetic biomarkers for the pharmaceutical and health care industries.



EpiSwitch™ supports new product development for applications in the screening, early detection, monitoring and prognosis of disease and chronic conditions associated with aberrant gene expression, such as oncology, inflammatory, metabolic, and autoimmune and neurodegenerative conditions.

Oxford BioDynamics Limited is registered in England and Wales, and has subsidiaries in Singapore, Malaysia and Australia.

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