

SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by Prof. Wanjin Hong:

Date: 4 September 2014, Thursday

Time: 11:00AM – 12:00PM

Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Speaker: Prof. Gary Sweeney, Professor, Department of Biology, York University, Toronto, Canada

Title: Recent insights on molecular mechanisms of adiponectin action

Our research focuses on mechanisms of adiponectin action in skeletal muscle and cardiomyocytes. Hyperinsulinemic-euglycemic clamp studies in adiponectin knockout mice showed that adiponectin corrected high fat diet (HFD)-induced defects in basal/post-insulin rate of glucose disposal (Rd) and insulin signaling in skeletal muscle. Metabolomic profiling revealed a key signature of relatively normalized metabolism across multiple metabolic pathways with adiponectin supplementation under the HFD condition, specifically with novel observations including notable changes in branched chain amino acids and lysolipids. We also observed changes in skeletal muscle autophagy in response to adiponectin that led us to investigate further in vitro. Adiponectin directly stimulated autophagic flux in cultured skeletal muscle cells and insulin sensitivity was attenuated in autophagy-deficient cell lines. The interplay between oxidative stress, endoplasmic reticulum stress and autophagy in regulating adiponectin's and insulin's metabolic effects in skeletal muscle cells will be further elaborated in this presentation.

Biography:

Dr. Sweeney obtained his BSc and PhD in pharmacology at University of Glasgow, UK. He then moved to the Hospital for Sick Children in Toronto as postdoctoral fellow. Afterwards Dr. Sweeney was appointed as faculty member in the Department of Biology at York University where he is now Professor. Dr. Sweeney has also served as Chief Scientific Officer and Diabetes Group Leader at Institut Pasteur Korea, a world-leading translational research institute. His research is funded by Canadian Institutes of Health Research, Canadian Diabetes Association and Heart & Stroke Foundation of Canada Korean Ministry of Education Science & Technology and AstraZeneca. Studies have resulted in publications in leading journals including Diabetes, Nature Reviews Cardiology, Proc Natl Acad Sci USA, Journal of Clinical Endocrinology & Metabolism, Journal of Biological Chemistry, Endocrinology and Cell Metabolism. These studies focus mainly on diabetes and cardiovascular disease, in particular the mechanisms linking obesity with diabetes and heart failure. He is recipient of academic awards from Canadian Diabetes Association, the Province of Ontario, Canadian Institutes of Health Research and Heart & Stroke Foundation of Ontario.

ALL ARE WELCOME (No registration required)