



The Singapore Bioimaging Consortium (SBIC)
presents a seminar

on

“Identification of Rho-kinase as a Novel Regulator of Insulin and Leptin Action”

Speaker: Kim Young-Bum
Assistant Professor of Medicine
Harvard Medical School

Date : Monday, 2 April 2012
Time : 11.00am – 12.00pm
Venue : SBIC Seminar Room, 11 Biopolis Way
Level 2, Helios Building
Singapore 138667
(Please use Level 1 entrance)

Abstract

Rho-kinase (ROCK) is a Ser/Thr protein kinase identified as a GTP-Rho-binding protein. Rho-kinase in endothelial cells, heart, and skeletal muscle is involved in the pathogenesis of metabolic-related diseases such as hypertension and diabetes. We have reported that Rho-kinase in peripheral tissues is important regulators of insulin receptor-PI3K signaling and glucose metabolism. Along with this, accumulating evidence shows that key insulin signaling mediators in hypothalamic neurons, including PI3K, PTEN, and mTOR, regulate adiposity and energy metabolism in mice. In the hypothalamus, leptin binding to LepRb activates JAK2 tyrosine kinase that is constitutively associated with the receptor, leading to enhanced downstream signaling, including Stat3 phosphorylation and PI3K activation. This talk will focus the physiological role of Rho-kinase in the regulation of glucose homeostasis and insulin sensitivity, and in hypothalamic control of energy metabolism and food intake, with particular emphasis to Rho-kinase's effect on insulin and leptin action.

About the Speaker

Young-Bum Kim, PhD is Assistant Professor of Medicine at Harvard Medical School. His training included two master's degree, one from the Kon-Kun University in Korea and the other from University of Tsukuba in Tsukuba, Japan where he also received his PhD in Molecular Physiology. After finishing his doctoral training, he joined the Division of Endocrinology, Beth Israel Deaconess Medical Center, as a postdoctoral fellow in 1996. Dr. Kim was promoted to Assistant Professor in 2003 and is expected to be promoted to Associate Professor in 2012. Dr Kim has authored 75 publications in the peer-reviewed Journal. Dr Kim has been serving on the research grant review

panel of the American Diabetes Association and NIH. Dr. Kim is also on the editorial board of the *American Journal of Physiology: Endocrinology and Metabolism*, *Endocrinology*, and an Associate Editor of *Metabolism* and *Reviews in Endocrine and Metabolic Disorders*. Dr Kim has extensively been investigating the molecular mechanisms underlying insulin and leptin resistance seen in obesity and type 2 diabetes.

--- Admission is free and all are welcome ---