DukeNUS Medical School

Signature Seminar Series

Enhancement of functional beta-cell mass

ABOUT THE LECTURE

Restoration of pancreatic islet β-cell mass is a priority goal in diabetes research. Our lab focusses on the identification and exploitation of novel pathways for stimulating proliferation of islet b-cells, with particular focus on pathways that allow retention of glucose-stimulated insulin secretion (GSIS). We previously described 5-10-fold increases in rodent islet cell proliferation in response to overexpression of the transcription factors Nkx6.1 or Pdx-1. Nkx6.1 stimulates rat islet b-cell proliferation via induction of the orphan nuclear receptors Nr4a1 and Nr4a3, which in turn activate expression of key cell cycle activators, cyclin E1 and E2F, and trigger degradation of the cell cycle repressor, p21. Conversely, overexpression of Pdx-1 triggers proliferation mainly in cells that lack Pdx-1 overexpression, suggesting a non-cell autonomous mechanism mediated by a soluble factor. Consistent with this idea, overexpression of Pdx-1 under control of a b-cell-specific promoter (RIP) stimulates proliferation of both α- and β-cells.

Speaker: ***Assistant Professor Hans-Ewald Hohmeier***
Assistant Professor
Department Medicine
Duke University Medical Center

Host: ***Professor Karl Tryggvason***
Professor, Cardiovascular and Metabolic Disorders Programme
Duke-NUS Medical School

Date: **Tuesday, 17 May 2016**

Time: **12:00 PM - 1:00 PM**
(Light refreshments will be served at 11:30 AM)

Venue: **Duke-NUS Medical School**
Amphitheatre, Level 2

Contact Person: **Ms Kathleen Chan, Duke-NUS Research Affairs Department**
Email: kathleen.chan@duke-nus.edu.sg

ABOUT THE SPEAKER

Hans-Ewald Hohmeier is an Assistant Professor in the Department of Medicine at Duke University Medical Center and a faculty member of the Duke Molecular Physiology Institute. He trained at the Medical School Hannover, Germany and at the Max-Planck Institute for Experimental Medicine in Goettingen, Germany. In 1992, he joined the Touchstone Center for Diabetes Research at UT Southwestern Medical Center in Dallas as a postdoctoral fellow training with Drs. J.D. Capra and C.B. Newgard. Prior to coming to Duke in 2002, Dr. Hohmeier spent 6 years developing engineered cell lines for the treatment of metabolic diseases at BetaGene, Inc. in Dallas, TX. He is interested in factors that control function and viability of mature islet beta-cells and how these factors can be exploited to prevent the loss of beta-cell mass and function in diabetes.



**** Please be informed that photography and videography may be taken during the event for publicity purposes.***