Cancer Science Institute of Singapore

SEMINAR ANNOUNCEMENT

Hideyuki Saya

Professor, Division of Gene Regulation,
Institute for Advanced Medical Research (IAMR)
Keio University School of Medicine



Actin Dynamics Regulate Differentiation of Cancer Cells

Date: **Tuesday, 28 November 2017**
Time: **11am – 12pm**
Venue: **LT36, Level 3, Centre for Translational Medicine (MD6)**
(14 Medical Drive, Singapore 117599)
Chair: **Prof Toshio Suda**

Abstract:

We established a mouse osteosarcoma (OS) stem cell through overexpression of c-MYC in bone marrow stromal cells derived from *Ink4a/Arf (-/-)* mice. In this model, we found that the loss of adipogenic potential is an essential event for OS development (***Oncogene*** 2010). Therefore, our understanding of regulatory mechanisms of adipocyte differentiation would greatly contribute to control OS tumorigenesis. We have recently found a novel regulatory mechanism of adipocyte differentiation, in which regulation of MKL1 by actin cytoskelton dynamics drives adipocyte differentiation mediated by PPARγ, a master transcriptional regulator of adipogenesis (***Nat Commun*** 2014). Based on this concept, we attempted to induce adipocyte differentiation in OS stem cells, which resulted in a significant suppression of tumorigenesis. Induction of trans-differentiation in cancer stem cells by regulating actin cytoskeleton dynamics is a potential approach for some tumor types. In this seminar, I also would like to show our data which reveal a new role of MKL1 in reprogramming of adipocyte.

Biosketch:

Hideyuki Saya MD, PhD graduated from Kobe University School of Medicine in 1981 and was Resident in the Neurosurgery until 1983. After which he joined the Graduate School of Medical Sciences to gain his PhD in 1987. He studied as a Postdoctoral Fellow in UCSF until 1988 then was appointed Assistant Professor at the Neuro-Oncology, M.D. Anderson Cancer Center. Houston, TX. From 1994 to 2006 he was Professor, Kumamoto University School of Medicine before taking his current position in Keio University School of Medicine in 2007. He is currently a vice president of Keio University Hospital and Director of Clinical and Translational Research Center.