The Singapore Bioimaging Consortium (SBIC)
presents a seminar

on

"Cell Cycle Regulation of Neural Progenitors by Chromatin Remodeling BAF Complex"

Speaker: **Dr Jiong Tang**
Research Associate
Stanford University
Host : **Dr Han Weiping**
Date : **Monday, 30 November2015**
Time : **3.30pm – 4.30pm**
Venue : **SBIC Seminar Room**
11 Biopolis Way
Level 2, Helios Building, Singapore 138667
(Please enter via Level 1)

Abstract

Neural stem cells make self-renewing divisions and eventually one or both daughter cells exit the cell cycle, which is thought to be dependent upon both intrinsic mechanisms and external signals. However, the nature of the mechanisms terminating proliferation of neural stem cells is unclear. Neuron differentiation corresponds to a switch from neural progenitor (npBAF) to neuron-specific (nBAF) chromatin regulatory complexes, which contain either BAF53a or BAF53b, respectively. Subunits of these complexes are frequently mutated in human neurological diseases, many of which have microcephaly. We show that repression of BAF53a initiates cell cycle arrest, which cannot be overcome by constitutive signaling by Wnt/□-catenin, myc or other growth regulators. The underlying mechanism involves BAF53a-based npBAF complexes binding to and directly controlling the activity of cell cycle genes operating at both G1/S and G2/M, as well as decreased global accessiblity, potentially from increased association of H1 protein.

About the Speaker

Dr Jiong Tang obtained his PhD in Neuroscience. His mentor is Prof Thomas C. Südhof from UT Southwerstern Medical Center at Dallas in 2007, focusing on molecular mechanism of synaptic transmission. He then continued his postdoctoral work in Dr Gerald R. Crabtree's lab at Stanford University, where he studied how epigenetic, mainly chromatin remodeling complex regulate neural progenitors (and ES cells) proliferation within genetic mouse model. Recently, He wants to extend his research work to pathological direction, especially neurological diseases, and he is

very interested in integrating the mutations of chromatin remodeling complex identified by exome sequencing from patients and the underlying mechanism. With the combination of molecular, genetic and biochemical analysis, he is eager to collaborate with people from exome sequencing, genome data analysis and drug development fields to investigate molecular mechanism for therapeutic implications.

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