CSCB Seminar Series

Title:

"Unique transcriptional regulation by wild-type and mutant p53"

Abstract:

The well-known transcription factor p53 is thought to suppress tumorigenesis primarily by inducing cell cycle arrest, apoptosis, and senescence in response to various stress. However, recent studies using mouse models challenged these long-held views of p53 functions. It is becoming evident that p53 has much more diverse non-canonical tumor suppressive functions. Yet, little is known about mediators of these non-canonical functions of p53, and how p53 selects diverse target genes to carry out different tumor suppressive activities. Further, recent evidences suggest that mutant p53 which lacks DNA binding ability has a gain-of-function to transcribe a subset of genes although underlying mechanisms are unclear. In this seminar, I would like to introduce a unique epigenetic strategy of p53 in embryonic stem cells (ESC) to choose its target genes to maintain the quality of ESCs while poising other target genes for preparing future differentiation signals. I will also introduce a novel function of mutant p53 to induce the transcription of *MMP7* to promote cancer invasion. A better understanding of unique transcriptional regulation by wild-type p53 and mutant p53 will improve therapeutic strategies to treat or prevent cancer.

Date:
22 Jan 2018
(Monday)

Time:
12pm – 1pm

Venue:
Amphitheatre, Level 2
Duke-NUS Medical School
8 College Road, S169857

(Opposite Singapore General Hospital, Block 6/7)

Host:
David Virshup, M.D.
Professor & Director
Programme in Cancer & Stem Cell Biology
Duke-NUS Medical School

"No registration is required."
Any enquiry, please contact:
Beatrice Tan (Tel: 6516 7923)

Speaker:



Koji ITAHANA, B.S., Ph.D.
Associate Professor
Programme in Cancer & Stem Cell Biology
Laboratory of Tumour Suppression
Duke-NUS Medical School

Biography:

Dr. Itahana obtained his B.S. and Ph.D. degree at the Faculty of Science, Kyoto University in Japan. He subsequently received the postdoctoral training at LBNL to study cellular senescence under Dr. Judith Campisi and at UNC-Chapel Hill to study ARF-MDM2-p53 pathway under Dr. Yanping Zhang. Dr. Itahana is currently an Associate Professor at Duke-NUS, and his laboratory focuses on revealing novel non-canonical functions of the ARF-Mdm2-p53 pathway in preventing tumorigenesis.