Cancer Science Institute of Singapore

Seminar Announcement

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Regulation of RNA processing by TORC1 signaling

Date: **Thursday 31 Jan 2019**
Time: **11am - 12pm**
Venue: **CeLS Auditorium**
Level 1, 28 Medical Drive, Centre for Life Sciences, Singapore 117456
Host: **Prof Daniel Tenen**

Abstract:
RNA processing, including splicing, UTR processing, and chemical modification, is a major source of protein diversity, with effects on expression, stability, localization, and activity. Numerous studies show that aberrant RNA processing contributes to cancer. However, a major gap in our knowledge is the nature of the signaling pathways that control RNA processing and the consequences of its differential regulation on the cancer proteome. This knowledge would drastically alter our understanding of how oncogenic signaling reshapes molecular networks and redirects the flow of biological information. To answer this question, I used cross-species approaches in both Drosophila in vivo models as well as mammalian systems to characterize how oncogenic TORC1 signaling regulates the function of the Cleavage and Polyadenylation (CPA) complex and how this event affects RNA processing and cellular metabolisms. Targeting RNA processing machinery and specific RNA isoforms and modification will identify potential cancer biomarkers and develop more selective and effective therapeutic interventions.

Biography:
Dr Tang Hong-Wen received his PhD degree from the Institute of Biochemistry at National Taiwan University in 2012 under the supervision of Dr. Guang-Chao Chen. After mandatory military service and short-term post-doctoral training, he accepted a Post-doctoral Fellow position in Dr. Norbert Perrimon's laboratory in the Department of Genetics at Harvard Medical School. His PhD work identified several new and important regulators of autophagy, including paxillin, Sqa/ZIPK, Myosin-II, Hsp27, and dTRAF2/TRAF6. He has been supported by multiple Postdoctoral Fellowships (HFSP long-term; Postdoctoral Research Abroad Program fellowship, Taiwan National Science Council; Postdoctoral Research Fellowship, Academia Sinica). Currently, he is investigating how oncogenic signaling pathways regulate RNA processing and cellular metabolism and has identified numerous RNA-binding proteins as critical downstream effectors of TORC1 signaling.