

## CSCB Seminar Series

### ZBTB48 is a pioneer factor regulating B-cell-specific CIITA expression

**Date:** 5 June 2023 (Monday)

**Time:** 12:00pm – 1:00pm

**Format:** In-person

Amphitheatre, Level 2

Duke-NUS Medical School

**Abstract:**

CIITA is the master regulator of MHC II gene expression and hence the adaptive immunity gene expression program. CIITA expression is tightly regulated by three lineage-specific promoters, pI, pIII and pIV, and can also be induced by IFN-gamma in non-immune cells. While key regulatory elements have been identified within these promoters, knowledge of transcription factors regulating CIITA is incomplete. Here, we demonstrate that the telomere-binding protein and transcriptional activator ZBTB48 directly binds to the critical ARE elements within CIITA pIII and enables its constitutive activation in B-cells. ZBTB48 regulates chromatin accessibility at CIITA pIII upstream of activating H3K4me3 modifications and the CIITA-MHC II expression program both in primary B-cells as well as upon IFN-gamma induction in non-immune cells. In sum, ZBTB48 acts as a molecular on-off-switch for B-cell-specific CIITA expression.

**Speaker:**



**Dr. Dennis Kappei**

Principal Investigator, Cancer Science Institute of Singapore, NUS

Assistant Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, NUS

Dennis Kappei is a Principal Investigator and the Head of the Quantitative Proteomics Core at the Cancer Science Institute of Singapore (CSI) and an Assistant Professor in the Department of Biochemistry in the Yong Loo Lin School of Medicine at the National University of Singapore. Dr Kappei obtained his MS degree from Ecole Normale Supérieure and University Paris VI and pursued his graduate studies at the Max Planck Institute of Molecular Cell Biology and Genetics under the roof of the Dresden International Graduate School for Biomedicine and Bioengineering.

**Host:**

**Dr. Shang Li**

Associate Professor

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Duke-NUS Medical School

**No registration is required.  
All are welcome.**

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