

Seminar Announcement
- All Are Welcome -

Speaker: Dr Haruhiko Koseki
RIKEN Research Center for Allergy and Immunology

Title: “*Polycomb* potentiates *Meis2* activation in midbrain by mediating precursory interaction of promoter with tissue-specific enhancer”

Date : 13 February 2013 (Wednesday)

Time : 4.00pm – 5.00pm

Venue: Breakthrough Theatre, Matrix Level 4, Biopolis

Host : Prof Davor Solter
(Tel: 64070170, email: davor.solter@imb.a-star.edu.sg)



Abstract of the Seminar:

Polycomb group (PcG) factors, in general, mediate the repression of developmental regulators in a reversible manner and contribute to establish their spatiotemporally regulated expression domains. It is however poorly understood how repressed genes by PcG are activated by developmental cues. In this study, we identified a critical role of a tissue-specific enhancer to remove PcG from promoter region by using mouse *Meis2* genes as a model. *Meis2* repression in early neural development depends on binding of Ring1, essential E3 components of PcG, to its promoter (PRT), which is secured by its association of another Ring1-binding site (RBS) at the 3' end of *Meis2*. In the prospective midbrain, midbrain-specific enhancer (MBE) transiently associates with the PRT and 3' RBS and this PRT/MBE/RBS interaction depends on Ring1. Upon midbrain development, dissociation of the RBS region from the tri-region interaction together with its binding Ring1 leaves active PRT/MBE engagement by releasing it from PcG-mediated repressive domain. This study therefore first time indicate the role of a tissue-specific enhancer to evict PcG from the promoter region and activate PcG-repressed genes in tissue- and stage-specific manner.

About the Speaker:

Dr. Haruhiko Koseki is currently Group Director of Laboratory for Developmental Genetics at RIKEN Research Center for Allergy and Immunology and Deputy Director of the Center, as well as Visiting Professor at Chiba University, Yokoyama City University and Keio University. He is on the editorial board of two publications: DNA and Cell Biology, and Development. He also serves as a committee member of Wellcome Trust conference of Mouse Molecular Genetics.

Dr. Koseki received his M.D. degree (1986) and Ph.D. (1990) from Chiba University, Japan. After he obtained his Ph.D., he was appointed Assistant Professor in 1990 and then Associate Professor in 1997 at School of Medicine, Chiba University. While holding the position of Assistant Professor, he won one of the competitive Long-Term Fellowship from the Human Frontier Science Program Organization and did his postdoctoral research at Max Planck Institute of Immunobiology in Freiburg, Germany. In 1998 he was appointed Professor at Department of Molecular Embryology, Graduate School of Medicine, Chiba University and joined RIKEN in 2001.