

The 11th IRCMS Seminar

Shaping up a lineage: Lessons from B-lymphocyte development

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Date: March 10, 2016 (Thursday)

Time: 17:00-18:00

Venue: 1F Conference Room,

Institute of Molecular Embryology and Genetics (IMEG)

<Abstract>

The development of mature blood cells from multipotent stem cell is a complex process involving the coordinated activity of transcription factor networks and extracellular signals. We have explored the molecular regulation of B-lymphocyte development using transgenic mouse models. This has revealed that the process involve distinct phases, specification resulting in the activation of the B-lineage program and commitment to abolish alternative cell fates. Even though these processes are linked via auto-regulatory loops they can be functionally separated. The differentiation pathway is linked to malignant transformation through the action of the transcription factors EBF1 and PAX5, acting in a dose dependent manner to prevent malignant transformation. The seminar will focus on our recent findings revealing that disruption of transcription factor networks in B-cell leukemia allow for plasticity mediating a cross lineage transfer of the leukemic state to generate T-lineage disease. Further, the seminar presents a protein association analysis revealing novel regulatory networks involving the targeting of broadly expressed DNA binding proteins to lineage restricted target genes by lineage specifying transcription factors.

This Seminar is certified as “Medical & Life Science Seminar 2015” for graduate students in Life Sciences.

Organized by:

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