



CDB SEMINAR

Edith Heard

Unité de Génétique et Biologie du Développement, Institut Curie, France

Thursday, March 30, 2017

14:00~15:00 A7F Seminar Room

X-chromosome structure meets function during X inactivation

* This seminar is a part of the Epigenetics Seminar Series 2016-2017.

Summary

X-chromosome inactivation during early female development is an essential epigenetic process that is required to achieve appropriate dosage for X-linked gene products. We are interested in understanding how the differential treatment of the two X chromosomes in the same nucleus is set up during development and how this differential expression is then maintained, or reversed in certain circumstances such as the inner cell mass of the mouse embryo or in the germ line. The establishment of X inactivation involves the non-coding Xist RNA that triggers chromosome-wide chromatin re-organisation and gene silencing. Recent insights have been made into the nature of these chromosome-wide changes and the factors that mediate them. However little is known about the underlying mechanisms and in particular, the degree to which 3D X-chromosome structure is a cause or a consequence of gene expression. Our recent studies have focused on the degree to which organization into topologically associated domains (TADs) (i) influences monoallelic Xist regulation and (ii) participates in regional escape from X inactivation on the inactive X chromosome.

Host:
Ichiro Hiratani
Developmental
Epigenetics, CDB
hiratani@cdb.riken.jp
Tel:078-306-3179
(ext:95-3179)

RIKEN CENTER for DEVELOPMENTAL BIOLOGY (CDB)