



# CDB SEMINAR

## Miho Ohsugi

Division of Oncology, Institute of Medical Science  
University of Tokyo

Wednesday, April 23, 2008

16:00~17:00 A7F Conference Room

## **Kid-Mediated Anaphase Chromosome Compaction Safeguards Mouse Early Embryos Against Multinuclear Formation**

### **Summary**

At the end of mitosis, all chromosomes are encapsulated into a single nucleus, but the underlying molecular mechanism is poorly understood. By analyzing mice and cultured cells lacking expression of chromokinesin Kid, a chromosome-associated kinesin-like motor protein, we demonstrate that Kid contributes to this event. Kid deficiency causes defects in compact clustering of the anaphase chromosomes. This often leads to micro- or multinuclear formation at oocyte meiosis II and the first couple of mitoses after fertilization, causing embryonic death in mice. Later somatic mitoses are not fatally affected by the absence of Kid, suggesting that cell divisions under significant influence of the ooplasm specifically require Kid to prevent formation of multinucleated cells.

Ref) Ohsugi M, et al. *Cell* **132**, 771-782 (2008).

### **Host:**

**Asako Sugimoto**

Developmental  
Genomics, CDB  
[sugimoto@cdb.riken.jp](mailto:sugimoto@cdb.riken.jp)  
Tel:078-306-3256  
(ext:1733)

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