CDB SEMINAR

Speaker: Shoko Yoshida

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Title: “PKA-RI spatially restricts Oskar expression for Drosophila embryonic patterning”

Date:	Friday, February 20
Time:	16:00 P.M.～17:30 P.M.
Place:	6th floor Conference Room of Building A, CDB

Summary:

Targeting proteins to specific domains within the cell is central to the generation of polarity, which underlies cell fate specification and pattern formation during development. The embryonic axes of the *Drosophila* embryo are determined by the activities of localised maternal gene products. At the posterior pole of the oocyte, Oskar plays a central role for formation of abdomen and germline in the embryo. Tight restriction of *oskar* activity is achieved by mRNA localisation, localisation-dependent translation, anchoring of the RNA and protein, and stabilisation. We report the involvement of PKA in this process; mutations in type I PKA regulatory subunit cause premature and ectopic accumulation of Oskar protein throughout the oocyte. We show that this phenotype is due to misregulation of PKA activity in the mutant. Conversely, overexpression of PKA-RI resulted in downregulation of PKA activity and reduction in Oskar protein accumulation. These data demonstrate that PKA mediates the spatial restriction of Oskar for antero-posterior patterning of the *Drosophila* embryo.

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