



CDB SEMINAR

Herbert Steinbeisser

Institute of Human Genetics, University of Heidelberg, Germany

Tuesday, September 19

13:30~14:30 C1F CDB Auditorium

How to get in shape: regulation of morphogenesis in the early *Xenopus* embryo

Summary

During gastrulation the *Xenopus* embryo has to develop two important morphogenetic cell behaviours. Cells of the mesoderm have to perform convergent-extension (CE) movements, which result in the establishment of the anterior-posterior (AP) body axis. Involuting mes-endoderm and ectoderm have to develop tissue separation (TS) behaviour in order to prevent mixing of the germ layers. Recent experiments suggest that non-canonical Wnt-signalling pathways are involved in the regulation of CE and TS. We have identified the receptor Frizzled 7 (Xfz7) and the Paraxial Protocadherin (PAPC) as components of the gastrula morphogenesis machinery. In the context of CE and TS the C-terminus of PAPC has signalling functions which modulates non canonical Wnt-signalling pathways. In a yeast two hybrid screen we have identified proteins which functionally connect PAPC and the Wnt pathways.

Speaker profile

Professor Herbert Steinbeisser is a prominent embryologist working on early embryonic patterning and morphogenesis in *Xenopus*. He combines molecular embryology with unique tissue recombinations and has been casting new insights onto the understanding of cell-cell interactions during early tissue construction and movement.

Winklbauer R, Medina A, Swain RK, Steinbeisser H. (2001) Frizzled-7 signalling controls tissue separation during *Xenopus* gastrulation. **Nature** 413, 856-860.
Medina A, Swain RK, Kuerner KM, Steinbeisser H. (2004) *Xenopus* paraxial protocadherin has signaling functions and is involved in tissue separation. **EMBO J.** 23, 3249-3258

Host:

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