



CDB SEMINAR

Philippa Francis-West

King's College London

Monday, June 28, 2010

16:00~17:00 A7F Seminar Room

Developmental roles of Dchs1-Fat4 signaling in mice

Summary

The Fat signaling pathway is named for a *Drosophila* gene, *fat*, which encodes a large cadherin protein that acts as a transmembrane receptor. Another large cadherin, *Dachsous*, acts as a ligand for Fat. In *Drosophila*, Fat signaling acts in multiple tissues, influencing both gene expression and planar cell polarity. The influence of Fat signaling on gene expression is affected through an intersection with the Hippo signaling pathway, and plays important roles in growth control. In order to investigate requirements for Fat signaling in mammals, we created gene targeted mutations in a murine *Dachsous* homologue, *Dchs1*. We have investigated the phenotypes of *Dchs1* mutant mice in multiple tissues, and compared them to *Fat4* mice. Our studies indicate that *Dchs1* and *Fat4* act as a ligand-receptor pair in mammals, and have identified novel requirements for Fat signaling in mammalian tissues.

Host:

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