

BDR SEMINAR in Kobe

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Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara

Monday, May 13, 2019

16:00-17:00, 7F Seminar Room, DB Building A

Gap junctions are required for the border cells neolamination in *Drosophila*

Summary

During development and metastasis, cells can leave one epithelium and eventually adhere to a new site, a process we call neolamination. Little is known about the cellular and molecular mechanisms by which cells assimilate into new locations. Border cells delaminate from the anterior follicular epithelium, migrate to the oocyte, and then join up with centripetal follicle cells (cfc), an example of neolamination.

We used expression profiling to identify mRNAs enriched in border cells and then conducted an RNAi screen to determine their functions. RNAs encoding Innexins (Inx) 2 and 3 were enriched in border and/or cfc. Innexins are gap junction forming proteins, functionally analogous to vertebrate connexins. Knockdown (k.d.) of Inx2 or 3 in border cells inhibits neolamination, providing the first mutation and thus the first clue as to the molecular mechanism that governs this important yet poorly understood process.



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