



CDB SEMINAR

Speaker:

Masako Asahina

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Title: **“Nuclear receptor NHR-25/Ftz-f1/SF-1 is required during epidermal differentiation in *C. elegans*”**

Date :	Wednesday, March 16
Time :	17:00 - 18:00
Place :	7F Conference Room of Building A, CDB

Summary:

Epithelial cell shape changes underlie important events during animal development. The nematode *Caenorhabditis elegans* possesses unique stem epithelial seam cells that change their shape dramatically as they elongate to renew mutual contacts after each round of asymmetric division, occurring once per larval stage. While the seam cell contacts are known to be important for epidermal differentiation, the genes behind the seam cell reconnection remain undisclosed. We show that *nhr-25*, one of the few conserved genes among 284 nuclear receptor family members in *C. elegans*, is necessary for seam cells to elongate and reach their neighbors. Seam cell contacts disrupted due to the loss of NHR-25 lead to aberrant fate of seam cell daughters and subsequently cause abnormal cuticle structure. Differentiation of a neuroblast originating from a specific seam cell in the absence of NHR-25 has suggested to us that *nhr-25* might interact with a Hox gene *mab-5*, a target of Wnt signaling in *C. elegans*. Such an interaction would be interesting, since the *Drosophila* NHR-25 ortholog Ftz-F1 cooperates with a close MAB-5 relative Fushi tarazu during segmentation. We are currently pursuing the mechanism of NHR-25 interaction with MAB-5 and the Wnt pathway.

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