



# CDB SEMINAR

## Nancy Manley

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Monday, August 23, 2010

16:00~17:00 C1F CDB Auditorium

### All paths lead to the thymus: a cross-species genetic analysis of Hoxa3 function

#### Summary

Hoxa3 was the first Hox gene, and among the first genes in general, to be knocked out using gene targeting. The null mutant has a complex phenotype, affecting multiple pharyngeal structures. We have taken a genetic approach in mice to dissecting the temporal, tissue-specific, and species-specific functions of Hoxa3 during embryonic development. Our data show that Hoxa3 has specific functions in neural crest versus endoderm, and at different times during development. We also show using a cross-species gene swap that the zebrafish Hoxa3 ortholog can perform some, but not all of the functions of the mouse gene. Our results provide new insights into the multiple roles Hox genes play in development, and into the role that changes in Hox protein function may play in morphological evolution of vertebrates.

#### Host:

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