

TITRE DU POSTER

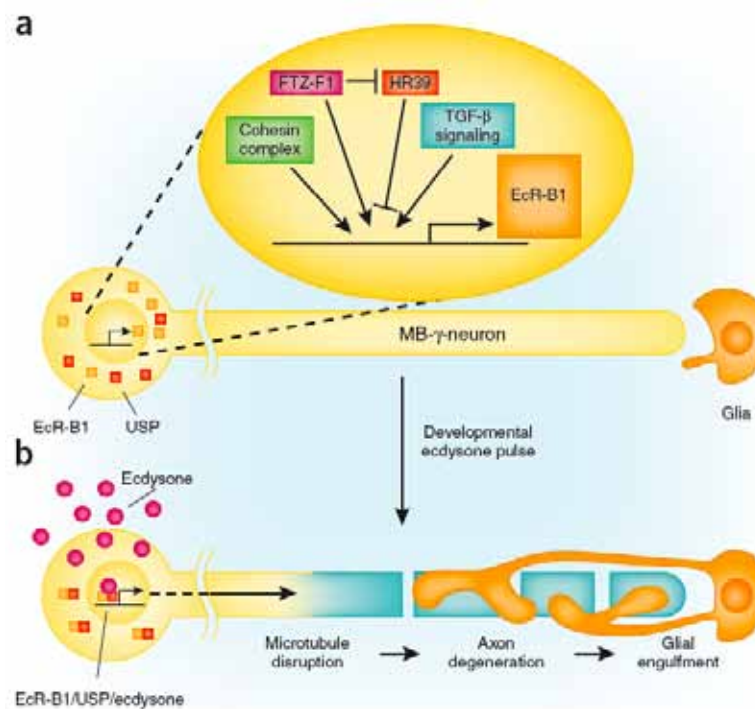
BIOLOGIE & SANTÉ 2011

TITRE

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Developmental axon pruning in the *Drosophila* brain

Developmental axon pruning is a general mechanism required for maturation of neural circuits. During *Drosophila* metamorphosis, the larval-specific dendrites and axons of early γ neurons of the mushroom bodies are pruned and replaced by adult-specific processes. We show here that the nuclear receptor *ftz-f1* is required for this pruning and has two roles: (i) to activate expression of the steroid hormone receptor *EcR-B1* whose activity is essential for γ remodeling and (ii) to repress expression of *Hr39*, a *ftz-f1* homologous gene. If inappropriately expressed in the γ neurons, HR39 inhibits normal pruning likely by competing with endogenous FTZ-F1 that results in decreased *EcR-B1* expression. *EcR-B1* was previously identified as a target of the TGF- β signaling pathway. Here we show that the *ftz-f1*/HR39 pathway acts apparently independent from TGF- β signaling, suggesting that *EcR-B1* is the target of two parallel molecular pathways acting during γ neuron remodeling.



After: Avraaki and Lee news and views on Boulanger et al., *ftz-f1* and *Hr39* opposing roles on *EcR* expression during *Drosophila* mushroom body neuron remodeling. *Nature Neuroscience* 14, 37-44 (2011).

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