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Title (English)

A novel screening method to identify molecules involved in sensory axon recognition of synaptic target cells in *Drosophila*

Title (Swedish)

Abstract

The formation of a functioning nervous system is a complex task. During embryogenesis peripheral neurons send out axons to connect to the central nervous system. How an axon identifies its target cells remains largely unknown. In an attempt to clarify some steps of the process the fruit fly *Drosophila melanogaster* was used as a model organism. Nerve cords from stage L1 larvae carrying a loss-of-function mutation were screened for defects in the branching pattern of terminal arborisations made by individual sensory neurons. The UAS:GAL4 system was used to visualise the arborisations. Larvae defective in *connectin*, *neurotactin*, *sidestep*, *tenascin major*, *protein tyrosine phosphatase 10D* and *Abl tyrosine kinase* were examined. Loss of fluorescence, increase of background fluorescence and loss of markers during crosses reduced the number of actual studied mutants to one, *connectin*. In the case of *connectin* no mutant phenotype could be observed.

Keywords

Drosophila, PNS, CNS, arborisation, UAS, GAL4, single cell dye injection

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