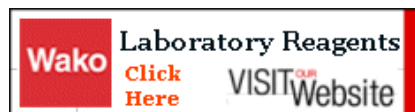


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## A theoretical model of axon guidance by the Robo code.

Goodhill GJ

Neural Comput 2003 Mar 15(3):549-64 [[abstract on PubMed](#)]
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Hypothesis

### Comments

Goodhill uses mathematical models to explore the logic by which distinct populations of neurons expressing different combinations of Robo-family receptors are directed to appropriate lateral positions within the neuropil of the *Drosophila* ventral nerve cord. The results of this analysis support a model where all three Robo receptors act via a common transduction pathway to produce quantitative differences in the response to Slit in different subsets of neurons. These models also predict that the Slit gradient must be steep for successful navigational responses, anticipating that factors which influence Slit diffusion from the midline may have a dramatic effect on axon guidance. This is a stimulating paper that helps one to think analytically about a fascinating piece of biology.

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