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Title: The Role of C. elegans Casy-1 in Foraging and Navigation

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Keywords: Biology  
C.elegans  
Neuroscience  
Protein

Issue Date: 13-Jul-2017

Publisher: IISER-M

Abstract: C. elegans CASY-1 is a cadherin-like type-I transmembrane protein which has been shown to be associated with defects in multiple forms of associative learning. In this study, I characterize the defects in locomotion behavior of casy-1 mutants both in the absence and presence of food. I show that C. elegans casy-1 exhibits behavioral deficits similar to mutants defective for neuropeptide signaling and release. Based on my findings and previous work, I propose a model based on which CASY-1 functions to regulate neuropeptide and neurotransmitter release from the sensory neurons. In casy-1 mutants, disrupted neuronal signalling from the sensory neurons leads to altered activity in the locomotor circuit resulting in the behavioral defects that I observe.


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