WWTF Project LS09-002

Molecular mechanisms of memory formation: targets of Drosophila Orb2

Abstract

Memories are key to our sense of identity, and to our ability to survive in a world in which everything seems to change, yet some things can still be predicted from past experience. Unlocking the secrets of memory has long been a dream for mankind, and a professional challenge for neuroscientists. The molecular revolution in biology during the past century has now paved the way for a mechanistic understanding of memory formation, which may well become one of the great scientific advances of the present century. So far, we know that memory depends on the selective strengthening of existing neuronal connections and the formation of new ones. For three decades, we have also known that these changes involve the synthesis of new proteins. But which ones? And what do they do? Our project will exploit a powerful combination of new biochemical, genetic, and computational approaches to find these proteins and begin to understand how they function in learning and memory.

Keywords:
memory, local translation, CPEB, protein-RNA interaction, Drosophila

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Status: Completed (01.01.2010 - 31.12.2012) 36 months

Funding volume: EUR 530,000

Further links about the involved persons and regarding the project you can find at
https://archiv.wwtf.at/programmes/life_sciences/LS09-002