Inducible Dominant Negative Disc1 Transgenic Mice as a Model for Schizophrenia

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BACKGROUND

Mutations in the gene Disrupted-in-Schizophrenia-1 (DISC-1), are associated with schizophrenia, depression and other schizoaffective disorders. Biochemical and cellular studies show that the DISC1 protein interacts with a number of molecules to form a functional complex, and that it plays an important role in neural development.

INNOVATION

Researchers at the University of California, Los Angeles have developed inducible dominant negative transgenic mice strains expressing different mutant DISC1 proteins. These mutations are thought to abolish the formation of normal DISC1 complexes by competing with endogenous DISC1 for available binding sites on target proteins. Researchers have found that the disruption of DISC1 protein during development produces deficits in sociability, latent inhibition and spatial working memory tasks in adult animals, thus effectively modeling the cognitive and social deficits associated with this disorder.

APPLICATIONS

Previous models of Schizophrenia attempt to mimic different aspects of this disorder by pharmacological means that do not reflect the etiology of the disorder. These mice are the first compelling genetic model of Schizophrenia and thus they could be used to better study the human phenotypes associated with DISC1 mutations and schizophrenia in general.

OTHER INFORMATION

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ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Phospho-specific Antibody for Cam Kinase II
- B-raf/loxp-flanked Mutant Mouse
- Statins as Treatment for Cognitive Dysfunction Associated with RASopathies

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OTHER INFORMATION

KEYWORDS

mouse model research tools

CATEGORIZED AS

- Biotechnology
  - Health
- Medical
  - Disease: Central Nervous System
  - Research Tools
- Research Tools
  - Animal Models

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