Cntnap2 Tlacz/Tlacz Mice

(No. M7-394)

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Overview

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Cntnap2tlacz/tlacz knockin/knockout mice have a tau-LacZ gene and a neo cassette replacing exon 1 of the Cntnap2 gene. These mice may be useful for studying neuronal circuitry involved in some neurological disorders.

The Cntnap2tlacz/tlacz knockin/knockout allele both abolishes contactin-associated protein-like 2 (Cntnap2; also known as Caspr2) gene function and instead expresses a tau-LacZ gene and a neo cassette from the C somatantnap2 promoter/enhancer elements.

CASPR2, a member of the neurexin family, mediates neuronâ€“glia interactions and is expressed in myelinated axons, dendrites, dendritic spines and the soma. CASPR2 has been linked to autism spectrum disorder (ASD), schizophrenia, bipolar disorder, epilepsy, Alzheimer's disease, and language disorders. Homozygous mice are viable and fertile, and X-gal staining reveals strong Cntnap2 promoter activity in cortical and subcortical regions including the cortex, hippocampus, substantia nigra, pontine, and medial mammillary nuclei. These mice are expected to display phenotypes similar to other Cntnap2 null alleles, such as abnormal social behavior, communication deficits, and hyperactivity, making them a valuable model for studying neuronal circuitry and neurodevelopmental disorders.

References

Gordon A , et al. Mol Cell Neurosci, 2016