B6.129-Shank3tm2Gfng/J

Stock No: 017688 | Shank3B

Congenic, Targeted Mutation

AVAILABLE

PLACE ORDER

Live mice available in varying quantities. Ask Customer Service for details.

Overview

Also Known As: Shank3B

The Shank3B knockout allele has a neo cassette replacing the PDZ domain (exons 13-16) of the Shank3 gene, resulting altered expression of the Shank3b isoform. These mice may be useful for studying behavioral abnormalities associated with autism spectrum disorder.

Donating Investigator

Guoping Feng, Massachusetts Institute of Technology
Shank3 is a synaptic scaffolding protein, expressed in the postsynaptic density (PSD) of excitatory synapses. Five intragenic promoters exist, allowing for extensive alternative splicing. SHANK3 mutations have been identified in cases of intellectual disability such as autism spectrum disorder (ASD), Phelan-McDermid syndrome, and Schizophrenia. In this strain a neo cassette replaces exons 13-16 of the Shank3 gene. Specifically, the PDZ domain is disrupted resulting in a deficiency of Shank3α and Shank3β, and a reduction in expression of the Shank3γ isoform. Mice display abnormal social behaviors, excessive grooming, and self-injurious repetitive behaviors. Shank3b<sup>−/−</sup> mice also exhibit defects at striatal synapses and cortical-striatal circuits, as well as changes in medium spiny neuron morphology and density. Homozygotes are viable and fertile. These mice may be useful for studying behavioral abnormalities associated with ASD.
Genetics

Shank3<sup>tm2Gfn</sup>

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols
Separated PCR: Shank3-Alternate 2
Probe: Shank3 Probe

Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations
Mutant mice were bred to C57BL/6J inbred mice (Stock No. 000664) using a marker-assisted, speed congenic approach to establish this congenic line. When maintaining the live congenic colony, homozygous mice may be bred together. If breeding homozygous mice, note that homozygous mice exhibit excessive grooming that result in skin lesions.

Additional Breeding and Husbandry Support

Mating System
Heterozygote x C57BL/6J (000664)
C57BL/6J (000664) x Heterozygote

Citation
When using the Shank3<sup>tm2Gfn</sup> mouse strain in a publication, please cite the originating article(s) and include JAX stock #017688 in your Materials and Methods section.

Animal Health Reports

Facility Barrier Level Descriptions

AX18 (Maximum)

Pricing & Availability

Available

Live mice available in varying quantities. Ask Customer Service for details.
### Live Mouse

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<th>SEX</th>
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### Related Products and Services

| Frozen Mouse Embryo | B6.129-Shank3<tm2Gfng>/J Frozen Embryo | $2595.00 |

### Breeder Pair

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Phone: 207-288-6470  
Email: TechTran@jax.org

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### Related Strains

- **All**
- **By Allele**
- **By Gene**
- **By Collection**