

STOCK *Shank3*^{tm4.1Gfng} /J

Stock No: **028779** | R1117X *Shank3* (Shank3*R1117X knock-in)

 Targeted Mutation

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

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exon 21 that results in expression of a ~122 kDa truncated SHANK3 protein. Homozygous mice exhibit profound synaptic defects in prefrontal cortex, social dominance behavior and increased level of anxiety-like behavior.

Donating Investigator

Guoping Feng, Massachusetts Institute of Technology

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GENETIC OVERVIEW

Genetic Background

Generation

Shank3^{tm4.1Gfng}

Allele Type

Gene Symbol

Gene Name

Targeted (Not Applicable)

Shank3

SH3 and multiple ankyrin repeat domains 3

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research

Research Tools

Developmental Biology Research

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

V I E W P R I C E L I S T

Details

Detailed Description

SHANK3 is a synaptic scaffolding protein, expressed in the postsynaptic density (PSD) of excitatory synapses. SHANK3 mutations have been identified in cases of intellectual disability such as autism spectrum disorder (ASD), Phelan-McDermid syndrome and Schizophrenia.

The R1117X *Shank3* knock-in allele harbors the schizophrenia-associated R1117X mutation in *Shank3* exon 21 that creates a stop codon and results in expression of a ~122 kDa truncated SHANK3 protein.

R1117X *Shank3* mice on a mixed C57BL/6J;129S genetic background were characterized in the original publication (Zhou *et al.* 2016 Neuron 89:147); and this is described below.

The donating investigator reports that mice homozygous for the R1117X *Shank3* knock-in allele (R1117X^{+/+}) are viable and fertile, but are inefficient breeders. Homozygotes exhibit synaptic and behavioral phenotypes similar to human schizophrenia. Specifically, R1117X^{+/+} exhibit profound synaptic defects in prefrontal cortex, social dominance behavior and increased level of anxiety-like behavior. Heterozygous mice (R1117X^{+/-}) have ~50% of the wildtype levels of full-length SHANK3 protein, and exhibit a less severe phenotype.

Development

Control Suggestions

Selected References

Genetics

Shank3^{tm4.1Gfng}

⊖ Disease/Phenotype

[+ Disease Terms](#)

[+ Research Areas By Phenotype](#)

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

⊖ Technical Support

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

Standard PCR:[Shank3](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

The donating investigator reports that although homozygous mice are viable and fertile, their synaptic and behavioral abnormalities result in inefficient breeding. When maintaining a live colony, heterozygous mice may be bred together, to wildtype littermates, or to B6129SF1 mice (Stock No. [101043](#)).

[Additional Breeding and Husbandry Support](#)

Citation

When using the R1117X *Shank3* (Shank3*R1117X knock-in) mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #028779 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, [G200](#)

⊖ Pricing & Availability



Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

Domestic International

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous or wildtype for Shank3<tm4.1Gfng>	\$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	STOCK Shank3<tm4.1Gfng>/J	\$2595.00
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LICENSING INFORMATION

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- All
- By Allele
- By Gene
- By Collection




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