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Stock No: 027918 | Trem2 R47H KI

Coisogenic, Endonuclease-Mediated Mutation



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Overview



MODEL-AD

Model Organism Development & Evaluation for Late-Onset Alzheimer's Disease

Also Known As: Trem2 R47H KI

This CRISPR/Cas9-generated mutant of the *Trem2* gene carries a R47H point mutation which has been shown to increase Alzheimer's disease risk.

Donating Investigator

Mike Sasner, The Jackson Laboratory

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GENETIC OVERVIEW

Genetic Background Generation
N2+pN2F11
(2020-01-17 00:00:00)

Trem2^{em1Aduj}

Allele Type	Gene Symbol	Gene Name
Endonuclease-mediated (Humanized sequence)	<i>Trem2</i>	triggering receptor expressed on myeloid cells 2

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$255.00 Domestic price for female 4-week

VIEW PRICE LIST

Details

Detailed Description

This CRISPR/Cas9-generated knock-out mutant of the *Trem2*, triggering receptor expressed on myeloid cells 2, gene introduces a R47H point mutation, as well as two silent mutations (lysine AAG>AAA and alanine GCC>GCA). The targeted *Trem2* gene encodes a protein that is part of a receptor signaling complex with TYRO protein tyrosine kinase binding protein, and that activates macrophages and dendritic cells during immune responses. The *TREM2* R47H mutation is a missense mutation in exon 2 that is one of the strongest genetic risk factors for late-onset Alzheimer's disease.

Expression of both transcripts of *Trem2* is decreased by about 50% in brains of mutant homozygous mice carrying the R47H allele. Mice expressing the *Trem2* R47H mutation also express a novel splice variant with a deletion of 119bp at the 5' end of exon 2, due to a cryptic splice acceptor site in exon 2.

Homozygotes are viable and fertile. As the mice are characterized, we will modify the strain description and add phenotype data.

[+ Development](#)

[+ Control Suggestions](#)

[+ Selected References](#)

[- Genetics](#)

[+ Trem2^{em1Aduj}](#)

[- Disease/Phenotype](#)

[+ Disease Terms](#)

[+ Research Areas By Genotype](#)

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

[- Technical Support](#)

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Genotyping Protocols

End Point Analysis: [Trem2^{em1Aduj}-EP](#)

End Point Analysis: [Trem2^{em1Aduj}](#)

Sanger sequencing: [Stat4^{em#1Msasn}](#)

[Genotyping resources and troubleshooting](#)

Dietary Information

New Diet as of March 2015: Lab Diet® 5K0Q (6% fat)

Breeding Considerations

When maintaining a live colony, these mice can be bred as homozygotes. Homozygotes are viable and fertile.

[Additional Breeding and Husbandry Support](#)

Mating System

Homozygote x Homozygote

Citation

When using the Trem2^{B47H.K1} mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #027918 in your Materials and Methods section.

[Facility Barrier Level Descriptions](#)

 [AX18 \(Maximum\)](#)

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Pricing effective for USA, Canada and Mexico shipping destinations

Live Mouse			
AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Homozygous for Trem2 ^{em1Aduj}	\$255.00
	Male	Homozygous for Trem2 ^{em1Aduj}	\$255.00
5 weeks	Female	Homozygous for Trem2 ^{em1Aduj}	\$255.00
	Male	Homozygous for Trem2 ^{em1Aduj}	\$255.00
6 weeks	Female	Homozygous for Trem2 ^{em1Aduj}	\$255.00
	Male	Homozygous for Trem2 ^{em1Aduj}	\$255.00
7 weeks	Female	Homozygous for Trem2 ^{em1Aduj}	\$255.00
	Male	Homozygous for Trem2 ^{em1Aduj}	\$255.00
8 weeks	Female	Homozygous for Trem2 ^{em1Aduj}	\$255.00
	Male	Homozygous for Trem2 ^{em1Aduj}	\$255.00

Related Products and Services

Frozen Mouse Embryo	C57BL/6J-Trem2 ^{em1Aduj} /J	\$2595.00
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