



B6 (SJL) ^{trem1.1(APOE*4)Aduj} Trem2 ^{pp1Aduj} / J

Stock No: 028709 | APOE4/Trem2*R47H



AVAILABLE

PLACE ORDER

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

Overview



MODEL-AD

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

Also Known As: APOE4/Trem2*R47H, APOE*4/Trem2*R47H

This double mutant strain carries a humanized ApoE knock-in mutation (sequence coding for isoform E4) and a CRISPR/cas9-generated R47H point mutation of the *Trem2* gene. These mice may be suitable for use in studies related to Alzheimer's disease, lipoproteins, arteriosclerosis, and coronary heart disease.

Donating Investigator

Mike Sasner, The Jackson Laboratory

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GENETIC OVERVIEW

Genetic Background Generation
?+pN1F3
(2019-03-01 00:00:00)

Trem2^{em1A}Adiuj

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

*ApoE^{tm1.1(APOE*4)}Adiuj*

Allele Type	Gene Symbol	Gene Name
Targeted (Inserted expressed sequence, Humanized sequence)	<i>ApoE</i>	apolipoprotein E

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research
Research Tools
Cardiovascular Research
Metabolism Research

BASE PRICE

Starting at:

\$255.00 Domestic price for female 4-week

VIEW PRICE LIST

Details

Detailed Description

This double mutant strain carries a humanized ApoE knock-in allele, in which exons 2, 3 and most of exon 4 of the mouse *ApoE* gene were replaced by human *APOE4* gene sequence including exons 2, 3 and 4 (and some 3' UTR sequence), and a knock-in point mutation in the mouse *Trem2*, gene consisting of an R47H point mutation, along with 2 other silent mutations.

The targeted apolipoprotein E gene is important in lipoprotein metabolism and cardiovascular disease as well as Alzheimer's disease, immunoregulation and cognition. 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.

Mice that are homozygous for both alleles are viable and fertile.

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

Of note, in brains of mice homozygous for the *Trem2*^{em1Adiuj} allele (and not carrying any other mutant alleles), expression of both transcripts of *Trem2* is decreased by about 50%. 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 (see Stock No. [027918](#)).

Development

Expression Data

Control Suggestions

Genetics

Trem2^{em1Adiuj}

ApoE^{tm1.1(APOE*4)Adiuj}

Disease/Phenotype

Disease Terms

Research Areas By Genotype

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

[- Technical Support](#)

TECHNICAL SUPPORT CHAT

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Genotyping Protocols

End Point Analysis: [Trem2^{em1Adiuj}](#)

End Point Analysis: [Trem2^{em1Adiuj_EP}](#)

Sanger sequencing: [Apoe^{tm1.1\(APOE*4\)Msasn-E4/E3/E2}](#)

Standard PCR: [Apoe^{tm1.1\(APOE*4\)Adiuj}](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, these mice can be bred as homozygotes for both alleles.

[Additional Breeding and Husbandry Support](#)

Mating System

Homozygous Apoe, homozygous Trem2 x Homozygous Apoe, homozygous Trem2

Citation

When using the APOE4/Trem2*^{R47H} mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #028709 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

 [AX18 \(Maximum\)](#)

[- Pricing & Availability](#)



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Available

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Pricing effective for USA, Canada and Mexico shipping destinations

Live Mouse

AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Homozygous for Apoe ^{tm1.1(APOE*4)Adiuj} Homozygous for Trem2 ^{em1Adiuj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Adiuj} Homozygous for Trem2 ^{em1Adiuj}	\$255.00
5 weeks	Female	Homozygous for Apoe ^{tm1.1(APOE*4)Adiuj} Homozygous for Trem2 ^{em1Adiuj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Adiuj} Homozygous for Trem2 ^{em1Adiuj}	\$255.00
6 weeks	Female	Homozygous for Apoe ^{tm1.1(APOE*4)Adiuj} Homozygous for Trem2 ^{em1Adiuj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Adiuj} Homozygous for Trem2 ^{em1Adiuj}	\$255.00

7 weeks	SEX	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
8 weeks	Female	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
9 weeks	Female	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
10 weeks	Female	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
11 weeks	Female	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
12 weeks	Female	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00
	Male	Homozygous for Apoe ^{tm1.1(APOE*4)Acluj}	Homozygous for Trem2 ^{em1Acluj}	\$255.00

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