



B 6 . Cg^{em3(APOE*)Aduj} / J

Stock No: 029017 | APOE2 KI

Congenic, Endonuclease-Mediated Mutation



AVAILABLE FOR REGISTERING INTEREST

R E G I S T E R I N T E R E S T

Please contact Technical Support for more information

Overview



MODEL-AD

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

Also Known As: APOE*2 KI, APOE2 KI

APOE*2 KI are CRISPR/Cas9-generated mice with R130C and R176C point mutations in the human *APOE* sequence of an existing humanized ApoE knock-in allele and express the human APOE isoform E2.

Donating Investigator

Mike Sasner, The Jackson Laboratory

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GENETIC OVERVIEW

Genetic Background Generation

Apoe^{em3(APOE)Adiuj}*

Allele Type	Gene Symbol	Gene Name
Endonuclease-mediated (Inserted expressed sequence, Humanized sequence)	<i>Apoe</i>	apolipoprotein E

VIEW GENETICS

RESEARCH APPLICATIONS

Metabolism Research
Neurobiology Research
Cardiovascular Research
Research Tools

VIEW ALL RESEARCH APPLICATIONS

Details

Detailed Description

The targeted *Apoe* gene encodes apolipoprotein E, which is important in lipoprotein metabolism and cardiovascular disease as well as Alzheimer's disease, immunoregulation and cognition. CRISPR/Cas9 was used to introduce a C to T nucleotide substitution point mutation in amino acids R130C and R176C into the human *APOE* sequence in the *Apoe^{tm1.1(APOE*4)Adiuj}* allele. The resulting *APOE*2* KI mice express *APOE* isoform 2, from the endogenous *Apoe* locus. The *APOE* 2 isoform is found in approximately 7% of the population, and does not bind to cell surface receptors as well as the 3 and 4 isoforms.

As the mice are characterized, we will modify the strain description and add phenotype data. Homozygous viability/fertility has not been tested (June 2018).

Development

Expression Data

Control Suggestions

Genetics

[+ Apoe^{em3\(APOE*\)}Adiuj](#)

Disease/Phenotype

[+ Disease Terms](#)

[+ Research Areas By Genotype](#)

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

Technical Support

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Genotyping Protocols

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

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

Probe: [Apoe^{em#\(APOE*4\)}](#) 3 prime T

[Genotyping resources and troubleshooting](#)

Breeding Considerations

Heterozygotes may be bred to C57BL/6J (Stock# [000664](#)), or wildtype littermates.

As the mice are characterized, we will modify the strain description if necessary and add data related to viability and fertility.

Homozygous viability/fertility has not been tested (June 2018).

[Additional Breeding and Husbandry Support](#)

Citation

When using the APOE2 KI mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #029017 in your Materials and Methods section.

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Please indicate your approximate levels of interest. You can add another line by selecting "Add More Interest".

Number of Mice

Frequency

Product

Comment

Frequency...

Products...

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Q U E S T I O N S A B O U T T E R M S O F U S E

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