MOUSE STRAIN DATASHEET

B6.Cg-Tg(APP695)3Dbo Tg(PSEN1dE

MMRRC Stock No: 34833-JAX | **APPswe/PS1dE9**

Congenic,Transgenic

CRYO RECOVERY

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Overview

Also Known As: APPswe line C3-3 x PS1dE9 line S-9, APPswe/PS1dE9

These double-transgenic mice show increased amyloid plaque deposition with age along with deficits in cognitive tasks and episodic-like memory tasks.

Donating Investigator

Dr. David R Borchelt, University of Florida

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GENETIC OVERVIEW

Genetic Background Generation

Tg(APP695)3Dbo

Allele Type

Transgenic (Inserted expressed sequence, Humanized sequence)

Tg(PSEN1dE9)S9Dbo

Allele Type

Transgenic (Inserted expressed sequence, Humanized sequence)

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research
Mouse/Human Gene Homologs

VIEW ALL RESEARCH APPLICATIONS

Details

Detailed Description

Double transgenic mice are viable and fertile. At 6 months of age, double-transgenic mice show visible amyloid plaque deposition but are indistinguishable from nontransgenic animals in all cognitive measures. By 18 months, amyloid deposits were much higher in APPswe/PS1dE9 mice with statistically significant but mild decreases in cholinergic markers (cortex and hippocampus) and somatostatin levels (cortex). Performance of older double-transgenic mice is impaired in all cognitive tasks, and deficits in episodic-like memory tasks correlate with total amyloid-beta peptide loads in the brain. Mutant mice, hemizygous for each transgene, and on the C57BL/6J background (N6), have altered EEG (decreased cortical theta activity and increased beta and gamma activity). EEG differences are detected as early as 7 month of age (Wang et al. Brain Res 2002).

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(APP695)3Dbo

Tg(PSEN1dE9)S9Dbo

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CHAT OFFLINE

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

Standard PCR:Generic Psen
Standard PCR:Generic APP human genomic or cDNA
Sanger sequencing:Tg(APP695)3Dbo-SEQ
Genotyping resources and troubleshooting

Breeding Considerations

When maintaining a live colony, The Jackson Laboratory will maintain this line by mating (APP695/0, +/+) females with (+/+, PSEN1/0) males (or reciprocal). The transgenes are not linked (only 1 in 4 pups is a double transgenic); and the integration site is unknown. The Jackson Laboratory will distribute mice with the following genotypes: (PARENT 1) hemizygous APP695, wildtype PSEN1; (PARENT 2) wildtype APP695, hemizygous PSEN1; and (OFFSPRING) double hemizygotes. Control mice can be generated from this breeding pair or investigators can consider C57BL/6J (Stock 000664). While the donating investigator warns that transgenic females can exhibit suboptimal mothering of litters, no such complications have been observed in our colonies to date at The Jackson Laboratory (Jun 2006). Homozygosity may result in sterile males and reduced viability of females, and should be avoided for breeding stocks.
Additional Breeding and Husbandry Support

Citation

When using the APPswe/PS1dE9 mouse strain in a publication, please cite the originating article(s) and include MMRRC stock #34833 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

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