Also Known As: 7nAChR^flox

These floxed mutant mice possess loxP sites flanking exon 4 of the Chrna7 gene. This strain may be useful for generating conditional mutations in studies of possible therapeutic targets for cognitive defects and applications related to the cholinergic anti-inflammatory pathway.

Donating Investigator

Jerry Yakel, NIEHS/NIH

RESEARCH APPLICATIONS

Neurobiology Research
Research Tools

VIEW ALL RESEARCH APPLICATIONS
Details

Detailed Description

The ligand-gated ion channel alpha7 nicotinic acetylcholine receptor, encoded by the Chrna7 gene, is widely expressed throughout the CNS in neurons and glial cells, and facilitates fast synaptic signal transmission. alpha7 nAChR is associated with epilepsy, Alzheimer’s disease and schizophrenia.

These mice possess loxP sites on either side of exon 4 of the targeted gene. Mice that are homozygous for this allele are viable and fertile. When these mutant mice are bred to mice that express Cre recombinase, resulting offspring will have exon 4 deleted in the cre-expressing tissues. Deletion of exon 4 yields an unstable mRNA gene product.

When bred to a strain with Cre recombinase expression in astrocytes (see Stock No. 012887 or Stock No. 024098 for example), this mutant mouse strain may be useful in studies of attention, learning and memory.

Development

Control Suggestions

Selected References

Genetics

Chrna7^tm1.1Ehs

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support
Genotyping Protocols
High Resolution Melting: Chrna7^{tm1.Ehs}-Alternate 1
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations
When maintaining a live colony, these mice can be bred as homozygotes.
Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Citation
When using the 7αAChrR^{floxed} mouse strain in a publication, please cite the originating article(s) and include JAX stock #026965 in your Materials and Methods section.
Facility Barrier Level Descriptions
AX12 (Maximum)

Pricing & Availability
3–6 week lead time for most orders depending on quantity and age range requested

Repository Live

<table>
<thead>
<tr>
<th>Domestic</th>
<th>International</th>
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<tbody>
<tr>
<td><strong>Live Mouse</strong></td>
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</tr>
<tr>
<td>AGE</td>
<td>SEX</td>
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<tr>
<td>Approx 4-8 weeks</td>
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