Overview

Also Known As: Acr 7-

These alpha7 nicotinic acetylcholine receptor knockout mice may be useful in studying the cholinergic anti-inflammatory pathway; including inflammatory neurotoxicity in stroke, myocardial infarction, sepsis and Alzheimer’s disease, as well as neuropsychiatric diseases such as schizophrenia.

Donating Investigator

Dr. Arthur Beaudet, Baylor College of Medicine
GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td></td>
<td>N10F7</td>
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<tr>
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<td>(2019-06-13 00:00:00)</td>
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Chrna7<sup>tm1Bay</sup>

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Chrna7</td>
<td>cholinergic receptor, nicotinic, alpha polypeptide 7</td>
</tr>
</tbody>
</table>

RESEARCH APPLICATIONS

Neurobiology Research

BASE PRICE

Starting at:

- $255.00 Domestic price for female
- $510.00 Domestic price for breeder pair

Details

Detailed Description

Mice homozygous for the alpha7 nicotinic acetylcholine receptor null allele (7 nAChR- or 7-) are viable and fertile. Neuropathological and histochemical assessment of brains from 7 nAChR knockout mice reveal no abnormalities. High-affinity nicotine binding sites are present but there is an absence of high-affinity [I-125] alpha-bungarotoxin sites. Homozygotes lack rapidly desensitizing, methyllycaconitine-sensitive, nicotinic currents that are present in hippocampal neurons.

Development

Control Suggestions

Selected References

Genetics

Chrna7<sup>tm1Bay</sup>
Genotyping Protocols
Standard PCR: $\text{Chrna7}^{\text{tm1Bay}}$-Alternate 1
High Resolution Melting: $\text{Chrna7}^{\text{tm1Bay}}$-Alternate 1
Genotyping resources and troubleshooting

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

Breeding Considerations
When maintaining a live colony, homozygous mice may be bred to heterozygous mice. Although homozygotes are viable and fertile, the donating investigator reports that breeding is better using heterozygous breeders, and they have observed reduced fertility in homozygotes. Heterozygotes produce small litters. Expected coat color from breeding is Black.

Additional Breeding and Husbandry Support
Mating System
Homozygote x Heterozygote
Heterozygote x Homozygote

Citation
When using the Acr Tg mouse strain in a publication, please cite the originating article(s) and include JAX stock #003232 in your Materials and Methods section.

Facility Barrier Level Descriptions
- AX11 (Maximum)

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

Domestic | International
Pricing effective for USA, Canada and Mexico shipping destinations
Live Mouse
### JAX® Mice, Products & Services Conditions of Use

<table>
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<tr>
<th>AGE</th>
<th>SEX</th>
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### Terms Of Use

#### Terms of Use

**General Terms and Conditions**

| QUESTIONS ABOUT TERMS OF USE |

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**Licensing Information**

Phone: 207-288-6470

Email: TechTran@jax.org

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