B6.129S4-Nos1<sup>tm1Pih</sup>/J

Stock No: 002986 | nNOS KO

- Congenic, Targeted Mutation

PLACE ORDER

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

Overview

Also Known As: nNOS KO

nNOS KO mice may be useful when studying structure and function of neurons and their synaptic connections in the brain and periphery.

Donating Investigator

IMR Colony, The Jackson Laboratory

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
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<tbody>
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</table>
Important Note

The mice of this strain have been backcrossed more than 10 backcrosses to C57BL/6J, making this strain more effective for studies of the Nos1 KO than the incipient stock (#002633).

Detailed Description

The nitric oxide signaling molecule produced by the neuronal Nos1 gene is widely expressed, affecting diverse systems. The knockout of this gene has been shown to affect such normal functions as cognition and behavior, long-term memory, cortical development, colonic motility, skeletal muscle contractility, ovarian cycle regulation, cardiac/cardiovascular function, and certain immune system responses. Western blots of brain homogenates from homozygous mutant mice showed no detectable protein. However, splice variants are expressed and variable low levels of NOS activity are seen in the brain. Heterozygous mice are viable and fertile, while some lethality is seen in homozygotes due to stomach hypertrophy. The first publication describing this knock-out reported that mutants have enlarged stomachs with hypertrophy of the pyloric sphincter and the circular muscle layer (Huang et al., 1993). Male homozygotes of this strain were initially reported to be more aggressive than control mice, but this has been since attributed to heterogeneity of the stock before it was sufficiently backcrossed to the C57BL/6J genetic background. Mice of this congenic strain in the Jackson Laboratory colony show normal behavior in this regard.

In an attempt to offer alleles on well-characterized or multiple genetic backgrounds, alleles are frequently moved to a genetic background different from that on which an allele was first characterized. This is the case for this strain. It should be noted that the phenotype could vary from that originally described. We will modify the strain description if necessary as published results become available.

Development
Genotyping Protocols
Standard PCR: $\text{Nos}^1_{\text{mPlh}}$
SEPARATED MELT: $\text{Nos}^1_{\text{mPlh}}$ Alternate2
Genotyping resources and troubleshooting

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

Breeding Considerations
This strain may be maintained by breeding heterozygous siblings due to some lethality related to stomach hypertrophy observed in homozygotes.

Additional Breeding and Husbandry Support

Mating System
Homozygote x Heterozygote
Heterozygote x Homozygote

Appearance
black
Related Genotype: a/a

Citation
When using the aNos1 KO mouse strain in a publication, please cite the originating article(s) and include JAX stock #002986 in your Materials and Methods section.

Facility Barrier Level Descriptions
AX10 (Standard)
### Pricing & Availability

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

#### Domestic | International

Pricing effective for USA, Canada and Mexico shipping destinations

<table>
<thead>
<tr>
<th>Live Mouse</th>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Heterozygous for Nos1&lt;sup&gt;Im1Pth&lt;/sup&gt;</td>
<td>$278.00</td>
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### Terms Of Use

#### Terms of Use

**General Terms and Conditions**

**Licensing Information**

Phone: 207-288-6470  
Email: TechTran@jax.org

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Related Strains

All

By Allele

By Gene

By Collection

All Related Strains