B6.129S4-Pink1<sup>tm1Shn/J</sup>

Stock No: 017946 | Pink1-

- Congenic, Targeted Mutation

PLACE ORDER

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

Overview

Also Known As: Pink1-

These Pink1 knockout mice exhibit reduced mean evoked dopamine overflow, altered dopamine signaling, and have applications in studies related to Parkinson's disease.

Donating Investigator

Jie Shen, Harvard Med Sch/Brigham Women’s Hosp

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**GENETIC OVERVIEW**

**Pink1<sup>tm1Shn</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>Pink1</td>
<td>PTEN induced putative kinase 1</td>
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**RESEARCH APPLICATIONS**

Research Tools
Neurobiology Research

**BASE PRICE**

Starting at:

$278.00 Domestic price for female 4-week

**Details**

**Detailed Description**

These Pink1 (PTEN induced putative kinase 1) knockout mice have exons 4 through 7 deleted, disrupting most of the kinase domain and producing a nonsense mutation at the start of exon 8 due to a reading frame shift. Missense mutations in the PINK1 gene cause autosomal-recessive Parkinson's disease. PINK1 loss of function results in mitochondrial dysfunction, increased reactive oxygen species production and calcium homeostasis imbalance. Homozygous mutant mice are viable and fertile. No Pink1 mRNA is detected by Northern blot analysis in brain tissue from homozygotes. Evoked release of striatal dopamine and catecholamine, and catecholamine release by adrenal chromaffin cells is decreased in homozygotes. Dopamine levels in the striatum, dopaminergic neuron number, dopamine synthesis and dopamine receptor number are not altered. Homozygotes exhibit impaired induction of long-term potentiation and long-term depression at corticostratial synapses. No nigrostriatal neurodegeneration is detected in homozygous mice 9 months of age. Homozygotes are more sensitive to metabotropic glutamate (mGlu) receptor agonist than wildtype controls.

**Development**

**Control Suggestions**

**Selected References**
Genotyping Protocols
Standard PCR: $\text{Pink}^1_{\text{tm1Shn}}\text{alternate}1$
SEPARATED MELT: $\text{Pink}^1_{\text{tm1Shn}}$ Alternate 3
Genotyping resources and troubleshooting

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 Pink1 mouse strain in a publication, please cite the originating article(s) and include JAX stock #017946 in your Materials and Methods section.

Animal Health Reports
- Facility Barrier Level Descriptions
  - AX18 (Maximum)

Pricing & Availability
Live mice available in varying quantities. Ask Customer Service for details.
<table>
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<th>AGE</th>
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