129-Sirt3tm1.Fws/J

Stock No: 012755 | Sirt3

Targeted Mutation

AVAILABLE

PLACE ORDER

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

Overview

Also Known As: Sirt3

The SIRT3 knock-out allele abolishes sirtuin 3 expression. These mice may be useful in studying the role of fatty acid oxidation in diabetes, cardiovascular disease, steatosis, fasting, cold exposure and life span.

Donating Investigator

Dr. Frederick W. Alt, Children's Hospital

Genetic Overview

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F7+N1 F12</td>
</tr>
</tbody>
</table>
**Sirt3^{1m1.1Fwa}**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Sirt3</td>
<td>sirtuin 3</td>
</tr>
</tbody>
</table>

**RESEARCH APPLICATIONS**
Diabetes and Obesity Research
Metabolism Research

**BASE PRICE**
Starting at: $278.00 Domestic price for female

**Details**

**Detailed Description**
The targeted mutation deletes exon 2-3 of the mouse sirtuin 3 gene (Sirt3), abolishing gene function. Homozygous mice are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. Sirt3^{−/−} mice exhibit hyperacetylation of mitochondrial enzymes, including glutamate dehydrogenase (GDH) and long-chain acyl coenzyme A dehydrogenase (LCAD), leading to a decrease in the modulation of mitochondrial metabolism and fatty acid oxidation. They show reduced ATP production, cold intolerance, and hypoglycemia. These mice may be useful in studying the role of fatty acid oxidation in diabetes, cardiovascular disease, steatosis, fasting, cold exposure and life span.

**Development**

**Control Suggestions**

**Genetics**

**Sirt3^{1m1.1Fwa}**

**Disease/Phenotype**
Genotyping Protocols
Standard PCR: Sirt\textsuperscript{3\textit{Im1.1Fwa}}
Genotyping resources and troubleshooting

Dietary Information
LabDiet\textsuperscript{®} 5K52 formulation (6% fat)

Breeding Considerations
When maintaining a live colony, homozygous mice may be bred together.
Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Citation
When used to derive mouse strain in a publication, please cite the originating article(s) and include JAX stock #012755 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.

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

- **All**
- **By Allele**
- **By Gene**
- **By Collection**

All Related Strains
Leading the search for

TOMORROW'S CURES