Overview

Sirtuin 1 KO mice may be useful for studying the endothelial expression of genes involved in angiogenesis and endothelial homeostasis, and postnatal vascular growth.

Donating Investigator
**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sirt1</strong>&lt;sup&gt;tm1Mcby&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<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>Sirt1</td>
<td>sirtuin 1</td>
</tr>
</tbody>
</table>

**RESEARCH APPLICATIONS**

Developmental Biology Research  
Cardiovascular Research

**BASE PRICE**

Starting at:  
$2,854.50 Domestic price  
Cryo Recovery

**Details**

A hygro cassette replaces exons 5-6 of the sirtuin 1 (*Sirt1*) gene, abolishing gene expression. Heterozygous mice are viable and fertile. Homozygotes are perinatal lethal on inbred backgrounds. The donating investigator reports that F1 crosses of B6 heterozygotes and FVB heterozygotes produces homozygotes at Mendelian ratios. Homozygous F1 offspring are infertile. SIRT1 is a protein deacetylase involved with telomere deacetylation, DNA repair, energy homeostasis. As such SIRT1 plays roles in telomere length maintenance, tumor growth, aging, and improved metabolic syndrome caused by high fat diets. Mice have craniofacial defects, increased apoptosis spermatocytes, and they fail to ovulate. They exhibit microphthalmia, and respiratory, cardiovascular, and immune defects. Some mice develop nephrogenic diabetes insipidus (NDI) characterized by production of large amounts of dilute urine due to the inability of the kidney to concentrate the urine.

**Development**
Genotyping Protocols
Standard PCR: Sirt1<sup>tm1Mcby</sup>
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, heterozygous mice may be bred to wildtype mice from the colony, or to C57BL/6J inbred mice (Stock No. 000664). Homozygotes are perinatal lethal on an inbred background. The donating investigator reports that an F1 cross of B6 heterozygotes and FVB heterozygotes produces homozygotes at Mendelian ratios. Homozygous F1 offspring are infertile.

Additional Breeding and Husbandry Support

Citation
When using the B6.129-Sirt1<sup>tm1Mcby</sup>/LguJ mouse strain in a publication, please cite the originating article(s) and include JAX stock #026009 in your Materials and Methods section.

Animal Health Reports
Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

Pricing & Availability
Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.
We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryorecovery to establish a Dedicated Supply for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

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**Payment Terms and Conditions**

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

**The Jackson Laboratory’s Genotype Promise**

The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. Therefore, we cannot guarantee a strain’s phenotype will meet all expectations. To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project.
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Credit for PRODUCTS or SERVICES

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Animal Care and Use for SERVICES

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### Related Strains

- All
- By Allele
- By Gene
- By Collection
All Related Strains