Overview

Also Known As: SP-D null

These SP-D knock-out mice exhibit progressive accumulation of lung surfactant lipids and proteins and are mildly obese. They are suitable for use in applications related to lung surfactant homeostasis, innate immunity and pulmonary inflammatory response.

Donating Investigator

Anne Marie Gillespie, University of California San Francisco
GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>Sftp&lt;sup&gt;tm1Haw&lt;/sup&gt;</td>
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<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>Sftp</td>
<td>surfactant associated protein D</td>
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RESEARCH APPLICATIONS
- Diabetes and Obesity Research
- Research Tools
- Neurobiology Research
- Developmental Biology Research
- Internal/Organ Research
- Metabolism Research

BASE PRICE
Starting at:

$2,595.00 Domestic price Cryo Recovery

Details

Detailed Description

The Sftp gene encodes for the C-type lectin glycoprotein surfactant protein D, which is secreted by pulmonary alveolar type II cells and nonciliated airway cells. The protein binds and coats bacteria and viruses to promote phagocytosis. These mice carry a knock-out mutation of the Sftp gene in which exon 2, including the translation start site, has been replaced by a PGK-NEO cassette. Mice that are homozygous for the targeted mutation are viable and fertile. No gene product (mRNA or protein) is detected by Northern or Western blot analysis of lung tissue from homozygotes. Knock-out mice exhibit progressive accumulation of surfactant lipids, surfactant protein A, and surfactant protein B in the alveolar space. By 8 weeks of age, the alveolar phospholipid pool was 8-fold higher than wildtype controls and a 10-fold increase in the number of alveolar macrophages is observed. Homozygotes are mildly obese and exhibit hyperphagia, elevated energy consumption, redistribution of fat deposits and insulin resistance. Knock-out mice have a 2 fold increase in basal levels of systemic gram negative bacterial endotoxin when compared to controls. During backcrossing, the Y chromosome may not have been fixed to the C57BL/6 genetic background.
Genotyping Protocols
MELT: Sftpdm1Howm-Alternate 1
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, these mice can be bred as homozygotes.
Additional Breeding and Husbandry Support

Citation
When using the E5.0 null mouse strain in a publication, please cite the originating article(s) and include JAX stock #027302 in your Materials and Methods section.
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.

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<tr>
<th>Domestic</th>
<th>International</th>
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<td>Pricing effective for USA, Canada and Mexico shipping destinations</td>
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**Cryorecovery - Domestic Pricing**

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<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Heterozygous for Sftp&lt;tm1Haw&gt;</td>
<td>$2,595.00</td>
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</table>

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.

**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.

**Terms Of Use**

Terms of Use

General Terms and Conditions

Additional Use Restrictions Apply

Use of MICE by companies or for-profit entities requires a license prior to shipping.

Licensing Information

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

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### Related Strains

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<td>By Collection</td>
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