Also Known As: Swiss Jim Lambert, SJL

SJL mice display a very high incidence of reticulum cell sarcomas resembling Hodgkin's disease by approximately one year of age. This strain is also characterized by extreme aggression in males and its susceptibility to experimental autoimmune encephalomyelitis (EAE) for multiple sclerosis research. SJL/J mice develop a spontaneous myopathy resulting from a splice-site mutation in the Dysferlin gene resulting in decreased levels of dysferlin protein in SJL/J mice and making this strain a good model for limb girdle muscular dystrophy 2B. SJL mice, fed an atherogenic diet (1.25% cholesterol, 0.5% cholic acid and 15% fat), fail to develop atherosclerotic aortic lesions in contrast to several highly susceptible strains of mice. SJL are immunocompetent but have elevated levels of circulating T cells.
GENETIC OVERVIEW

Genetic Background  Generation

Contact Technical Support  
(2018-07-27 00:00:00)

RESEARCH APPLICATIONS

Cardiovascular Research  
Cancer Research  
Sensorineural Research  
Diabetes and Obesity Research  
Research Tools  
Immunology, Inflammation and Autoimmunity Research  
Mouse/Human Gene Homologs  
Dermatology Research

BASE PRICE
Starting at:  
$32.20 Domestic price for male 3-week

Volume Pricing Available!  
for select shipping destinations  
Click for Details

Important Note
This strain is homozygous for the retinal degeneration allele \( Pde6b^{rd1} \).

Detailed Description
SJL mice display a very high incidence of reticulum cell sarcomas resembling Hodgkin's disease by approximately one year of age. Sarcomas first appear in the Peyer's patches and mesenteric lymph nodes and later in the spleen, liver, thymus and other lymph nodes. Most of the tumors are mixed-cell types classified as type B reticulum cell neoplasms, but a few are type A histiocytomas. This strain is also characterized by extreme aggression in males and its susceptibility to experimental autoimmune
encephalomyelitis (EAE) for multiple sclerosis research. SJL/J mice develop a spontaneous myopathy resulting from a splice-site mutation in the Dysferlin gene. This $Dysf^{m}$ allele has been shown to result in decreased levels of dysferlin protein in SJL/J mice and makes this strain a good model for limb girdle muscular dystrophy 2B. This spontaneous myopathy is characterized by a progressive loss of muscle mass and strength corresponding with an increase in muscle pathology including muscle fibers with central nuclei, size variation, splitting, inflammatory infiltrate, necrosis, and eventual replacement of muscle fiber with fat. While muscle weakness can be detected as early as three weeks of age the greatest pathology occurs after six months of age. SJL/J mice have also been shown to have an increased rate of muscle regeneration after injury when compared to BALB/c mice. Due to a mutation in $Ceacam1$ SJL/J mice are resistant to infection by certain strains of mouse hepatitis virus MHV-4.

SJL mice, fed an atherogenic diet (1.25% cholesterol, 0.5% cholic acid and 15% fat), fail to develop atherosclerotic aortic lesions in contrast to several highly susceptible strains of mice (e.g. C57BL/6J, Stock No. 000664; C57L/J, Stock No. 000668, C57BR/cdJ, Stock No. 000667, and SM/J, Stock No. 000687). SJL/J are also useful as a control strain for studying immune defects in NOD/ShiLtJ mice (Stock No. 001976), a model for type 1 diabetes (IDDM). Both NOD and SJL/J are derived from Swiss mice; SJL are immunocompetent but have elevated levels of circulating T cells.

In 2019, researchers at The Jackson Laboratory discovered this inbred strain has a nonsense mutation in $Trem2$ affecting codon 148 (dbSNP ID: rs107649577 [Ensembl GRCm38.p6]).

Development

Selected References

Genetics

- $Oca2^p$
- $Il2^{m1}$
- $Gpr84^{del}$
- $Rmcfs$
- $Ceacam1^{HV2-r}$
- $Disc1^{del}$
- $Mx1^{s1}$
- $Ahr^{d}$
- $Cd5^{b}$
- $Pde6b^{d1}$
- $Ogg1^{m1}$
- $Ogg1^{m2}$
- $Dysf^{m}$
Genotyping Protocols
Genotyping resources and troubleshooting
Inbred mouse strains are maintained through sibling (sister x brother) matings; no genotyping required.

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

Breeding Considerations
This strain is a good breeder.

Additional Breeding and Husbandry Support
Mating System
Sibling x Sibling

Appearance
albino

Related Genotype: Oca2<sup>4</sup> Tyr<sup>c</sup>/Oca2<sup>4</sup> Tyr<sup>c</sup> A/A

Citation
When using the SJL mouse strain in a publication, please include JAX stock #000686 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions
- MP16 (Standard)
- MP13 (Maximum)
- RB04 (Maximum)

Pricing & Availability
- Sized to accommodate orders of up to 100 or more. Ask Customer Service for details.
### Live Mouse

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$34.85</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Not Applicable</td>
<td>$32.20</td>
</tr>
<tr>
<td>4 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$36.88</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Not Applicable</td>
<td>$33.40</td>
</tr>
<tr>
<td>5 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$41.17</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Not Applicable</td>
<td>$36.81</td>
</tr>
<tr>
<td>6 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$42.42</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Not Applicable</td>
<td>$42.42</td>
</tr>
<tr>
<td>7 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$44.21</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Not Applicable</td>
<td>$55.98</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$55.98</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Not Applicable</td>
<td>$58.27</td>
</tr>
<tr>
<td>9 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$58.27</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Not Applicable</td>
<td>$60.30</td>
</tr>
<tr>
<td>10 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$60.30</td>
</tr>
</tbody>
</table>

### Volume Pricing Details

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>VOLUME PRICING</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>10% off</td>
</tr>
</tbody>
</table>

**Volume Pricing Program**

Quantities: Volume pricing is automatically applied when a minimum quantity per strain for a shipment is reached

Sexes: Sexes of the same strain may be combined to reach minimum quantity levels to receive the volume pricing

Shipment: All shipping destinations qualify

This strain is available from some international Charles River (CR) breeding facilities in Japan and/or Europe. For more information, see the [Worldwide Distributor List for JAX® Mice](https://example.com).

**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](https://example.com)
Licensing Information
Phone: 207-288-6470
Email: TechTran@jax.org

JAX® Mice, Products & Services Conditions of Use

"MICE" means mouse strains, their progeny derived by inbreeding or crossbreeding, unmodified derivatives from mouse strains or their progeny supplied by The Jackson Laboratory ("JACKSON"). "PRODUCT(S)" means biological materials supplied by JACKSON, and their derivatives. "SERVICES" means projects conducted by JACKSON for other parties that may include but are not limited to the use of MICE or PRODUCTS. "RECIPIENT" means each recipient of MICE, PRODUCTS, or SERVICES provided by JACKSON including each institution, its employees and other researchers under its control. MICE or PRODUCTS shall not be: (i) used for any purpose other than internal research, (ii) sold or otherwise provided to any third party for any use, or (iii) provided to any agent or other third party to provide breeding or other services. Acceptance of MICE, PRODUCTS or SERVICES from JACKSON shall be deemed as agreement by RECIPIENT to these conditions, and departure from these conditions requires JACKSON’s prior written authorization.

No Warranty
MICE, PRODUCTS AND SERVICES ARE PROVIDED "AS IS". JACKSON EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS, IMPLIED, OR STATUTORY, WITH RESPECT TO MICE, PRODUCTS OR SERVICES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF NON-INFRINGEMENT OF ANY PATENT, TRADEMARK, OR OTHER INTELLECTUAL PROPERTY RIGHTS.

Credit for PRODUCTS or SERVICES
In case of dissatisfaction for a valid reason and claimed in writing by a purchaser within ninety (90) days of receipt of, PRODUCTS or SERVICES, JACKSON will, at its option, provide credit or replacement for the PRODUCT received or the SERVICES provided; JACKSON makes no other representations and this shall be the exclusive remedy of the purchaser. Please note specific policy for live mice.

Animal Care and Use for SERVICES
Consistent with the requirement for a written understanding regarding animal care and use, the JACKSON Animal Care and Use Committee will review the animal care and use protocol(s) associated with any SERVICES to be performed at JACKSON, and JACKSON shall have ultimate responsibility and authority for the care of animals while on site or in JACKSON custody.

No Liability
In no event shall JACKSON, its trustees, directors, officers, employees, and affiliates be liable for any causes of action or damages, including any direct, indirect, special, or consequential damages, arising out of the provision of MICE, PRODUCTS, or SERVICES, including economic damage or injury to property and lost profits, and including any damage arising from acts or negligence on the part of JACKSON, its agents or employees. Unless prohibited by law, in purchasing or receiving MICE, PRODUCTS, or SERVICES from JACKSON, purchaser or recipient, or any party claiming by or through them, expressly releases and discharges JACKSON from all such causes of action or damages, and further agrees to defend and indemnify JACKSON from any costs or damages arising out of any third party claims.

MICE, PRODUCTS or SERVICES are to be used in a safe manner and in accordance with all applicable governmental rules and regulations.

The foregoing represents the General Terms and Conditions applicable to JACKSON’s MICE, PRODUCTS or SERVICES. In addition, special terms and conditions of sale of certain MICE, PRODUCTS, or SERVICES may be set forth separately in JACKSON web pages, catalogs, price lists, contracts, and/or other documents, and these special terms and conditions shall also govern the sale of these MICE, PRODUCTS and SERVICES by JACKSON, and by its licensees and distributors.

Acceptance of delivery of MICE, PRODUCTS or SERVICES shall be deemed agreement to these terms and conditions. No purchase order or other document transmitted by purchaser or recipient that may modify the terms and conditions hereof, shall be in any way binding on JACKSON, and instead the terms and conditions set forth herein, including any special terms and conditions set forth separately, shall govern the sale of MICE, PRODUCTS or SERVICES by JACKSON.

Related Strains