



# S J L / J

Stock No: 000686 | SJL

Inbred Strain



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## Overview



### 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.

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## GENETIC OVERVIEW

Genetic Background

Generation

[Contact Technical Support](#)  
(2018-07-27 00:00:00)

VIEW GENETICS

## 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

VIEW ALL RESEARCH APPLICATIONS

## BASE PRICE

Starting at:

\$32.20 Domestic price for male 3-week

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### Details

#### Important Note

This strain is homozygous for the retinal degeneration allele *Pde6b<sup>rd1</sup>*.

#### 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<sup>im</sup>* 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](#)]).

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### + Development

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### + Selected References

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### - Genetics

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+ *Oca2<sup>p</sup>*

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+ *Ii2<sup>m1</sup>*

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+ *Gpr84<sup>del</sup>*

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+ *Rmcf<sup>s</sup>*

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+ *Ceacam1<sup>Hv2-r</sup>*

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+ *Disc1<sup>del</sup>*

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+ *Mx1<sup>s1</sup>*

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+ *Ahr<sup>d</sup>*

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+ *Cd5<sup>b</sup>*

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+ *Pde6b<sup>d1</sup>*

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+ *Ogg1<sup>m1</sup>*

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+ *Ogg1<sup>m2</sup>*

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+ *Dysf<sup>im</sup>*

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## – Disease/Phenotype

+ Disease Terms

+ Research Areas By Genotype

+ Mammalian Phenotype Terms by Genotype

+ Phenotype Information

+ References

## – Technical Support

CHAT OFFLINE

CONTACT TECHNICAL SUPPORT

### 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>o</sup> Tyr<sup>c</sup>/Oca2<sup>o</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.

[Facility Barrier Level Descriptions](#)

 [MP16 \(Standard\)](#)

 [MP13 \(Maximum\)](#)

 [RB04 \(Maximum\)](#)

## – Pricing & Availability



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AGE	SEX	GENOTYPE	PRICE
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	Male	Not Applicable	\$32.20
4 weeks	Female	Not Applicable	\$36.88
	Male	Not Applicable	\$33.40
5 weeks	Female	Not Applicable	\$41.17
	Male	Not Applicable	\$36.81
6 weeks	Female	Not Applicable	\$42.42
7 weeks	Female	Not Applicable	\$44.21
8 weeks	Female	Not Applicable	\$55.98
9 weeks	Female	Not Applicable	\$58.27
10 weeks	Female	Not Applicable	\$60.30

## Volume Pricing Details

QUANTITY	VOLUME PRICING
125	10% off

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