B6;129S-Scarb1<sup>tm1Kri</sup>/J

Stock No: 003379 | SR-BI KO

- Targeted Mutation

**Overview**

**Also Known As: SR-BI KO**

Knock-out mice for the scavenger receptor class B, member 1 (Scarb1<sup>tm1Kri</sup>) exhibit increases in in plasma cholesterol (primarily HDL) as compared to wild type controls, and decreases in cholesterol levels in adrenal tissue.

**Donating Investigator**

Dr. Monty Krieger, Massachusetts Institute of Technology

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
</table>

PLACED ORDER

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

**Detailed Description**

The class B, type I scavenger receptor (Srb1 or Scarb1) is a cell surface HDL receptor that can recognize the apolipoproteins on the surface of the HDL particle. It plays a key role in determining the levels of plasma lipoprotein cholesterol (primarily HDL) and the accumulation of cholesterol stores in the adrenal gland. In this strain, plasma cholesterol (primarily HDL) concentrations increase by 125% in homozygotes and 31% in heterozygotes, as compared to wild type controls. Also, cholesterol levels in adrenal tissue in homozygous and heterozygous mutants decrease by 72% and 42% respectively, relative to wild type controls. The plasma concentration of Apoa-I, the major protein in HDL, is unchanged in mutant animals, relative to wild type controls.

On a mixed genetic background (B6;129), homozygous females are infertile and homozygous males are fertile. As of 2008, the donating investigator reported that on a mixed genetic background (B6;129), breeding heterozygotes together yielded less homozygous pups (~12.5%) than predicted Mendelian ratio. By 2016, The Jackson Laboratory live colony had been maintained by several generations of breeding heterozygotes together and/or to wildtype siblings (generation F39-40). In addition, some pedigree lines had been backcrossed 1-2 generations onto C57BL/6J (during rederivation, etc.). At that time, some instances were reported that heterozygous matings were failing to generate live homozygotes. Of note, the donating investigator reported that similar breedings using C57BL/6-congenic Scarb1tm1Kri (generation N9, not at The Jackson Laboratory) resulted in embryonic death of all homozygotes. Taken together, this suggests that mice homozygous for this Scarb1 knock-out allele have increased incidence of embryonic lethality associated with continued backcrossing onto C57BL/6. In response, The Jackson Laboratory will not maintain the pedigree lines backcrossed onto C57BL/6J. In 2017, re-establishment of a mixed B6;129 genetic background (closer to 50% C57BL/6;...
50% 129S1) resulted in heterozygous breeders producing homozygous offspring (both females and males) at ratios approaching Mendelian expectations.

Of note, a similar strain, Srb1^{DeltaCT} (Stock No. 032062), containing a premature stop codon in exon 12, is viable and fertile as homozygotes.

Genotyping Protocols
MELT: Scarb1^{tm1Kri}
Genotyping resources and troubleshooting

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

On a mixed genetic background (B6;129), homozygous females are infertile and homozygous males are fertile. As of 2008, the donating investigator reported that on a mixed genetic background (B6;129), breeding heterozygotes together yielded fewer homozygous pups (~12.5%) than predicted Mendelian ratio. In addition, evidence in 2016 from a colony not at The Jackson Laboratory suggested that mice homozygous for this Scarb1 knock-out allele had increased incidence of embryonic lethality associated with continued backcrossing onto C57BL/6. In 2017, the live colony at The Jackson Laboratory was bred one generation to 129S1/SvImJ inbred mice (Stock No. 002448) to re-establish a mixed B6;129 genetic background (closer to 50% C57BL/6 : 50% 129S1). This resulted in heterozygous breeders producing homozygous offspring (both females and males) at ratios approaching Mendelian expectations. Thereafter, when maintaining our live colony at The Jackson Laboratory, heterozygous mice may be bred with wildtype mice from the colony; avoiding any backcross onto C57BL/6 (2017).

On a mixed genetic background (B6;129), the expected coat color from breeding is black or agouti.

Of note, a similar strain, Srb1<deltaCT> (Stock No. 032062), containing a premature stop codon in exon 12, is viable and fertile as homozygotes.

Additional Breeding and Husbandry Support

Mating System
Heterozygote x +/- sibling
+/- sibling x Heterozygote

Citation
When using the Srb1<deltaCT> mouse strain in a publication, please cite the originating articles and include JAX stock #003379 in your Materials and Methods section.

Pricing & Availability

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

<table>
<thead>
<tr>
<th>LIVE MOUSE</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>SEX</td>
<td>GENOTYPE</td>
<td>PRICE</td>
</tr>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Heterozygous for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$278.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Heterozygous for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$278.00</td>
</tr>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Wild-type for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$78.51</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Wild-type for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$78.51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BREEDER PAIR</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
<td>GENOTYPE</td>
<td>PRICE</td>
</tr>
<tr>
<td>Female</td>
<td>Heterozygous for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$556.00</td>
</tr>
<tr>
<td>Male</td>
<td>Heterozygous for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Heterozygous for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$356.51</td>
</tr>
<tr>
<td>Male</td>
<td>Wild-type for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>
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 non-profits requires a Material Transfer Agreement (MTA) and for-profit entities require a license.

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

| All |
| By Allele |
| By Gene |
| By Collection |

All Related Strains
Leading the search for
TOMORROW'S CURES