ALR / LtJ

Stock No: 003070

Also Known As: Alloxan Resistance
Mice of the inbred strain, ALR/LtJ, mice are resistant to alloxan or streptozotocin, and do not develop type 1 insulin dependent diabetes.

CRYO RECOVERY

PLACE ORDER

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

GENETIC OVERVIEW

| Genetic Background | Generation |

VIEW GENETICS

RESEARCH APPLICATIONS
Diabetes and Obesity Research
Immunology, Inflammation and Autoimmunity Research
Important Note
This strain is homozygous for $Cdh23^{ahl}$, the age related hearing loss 1 mutation, which on this background results in progressive hearing loss with onset prior to three months of age.

Detailed Description
ALS/LtJ (Stock No. 003072) and ALR/LtJ inbred strains are of interest to investigators across a wide range of scientific disciplines including type 1 and type 2 diabetes, obesity, metabolism and toxicology research. Treatment of alloxan or streptozotocin causing pancreatic beta cell destruction, leads to severe hyperglycemia and hypoinsulinemia in ALS/LtJ mice. ALR/LtJ mice are resistant to these toxins. ALR/LtJ mice are of particular interest to investigators studying the immunogenetics of NOD/ShiLtJ mice in that the ALR/LtJ MHC haplotype ($H2^{\beta t}$) is a variant of the diabetogenic NOD $H2^{\beta 7}$ haplotype. The ($H2^{\beta t}$) haplotype is identical to the $H2^{\beta 7}$ haplotype from the H2-K end of the complex through the class II and class III region distal to Hsp70. However, at the distal H2-D end of the complex, ALR/LtJ mice have a rare $H2-D^{sp}$ allele. Despite the similarities to the NOD/ShiLtJ mice, ALR/LtJ mice do not develop type 1 insulin dependent diabetes and thus provide an important control strain for NOD/ShiLtJ. ALR/Lt islets are unusually resistant in vitro to beta cell selective toxins known to generate free radicals (alloxan and streptozotocin). In addition, ALR/Lt islets are resistant to cytokine-mediated destruction. This resistance is correlated with an ALR strain-specific systematic elevation of enzymes and molecules associated with dissipation of free radicals. ALR/Lt mice of both sexes not treated with alloxan exhibit normal glucose tolerance, but gain weight rapidly, with females exhibiting male-like weight at 50 weeks of age. Understanding the genetic basis for the resistance of ALR mice to free radical mediated stressors, like alloxan and streptozotocin, as well as to immune system mediated stress, should prove valuable to pharmacologists interested in a variety of autoimmune and other diseases in which reactive oxygen species are associated with pathology.

Development

Selected References

Genetics

$Cdh23^{ahl}$

$mt-Tr^{m2}$
Genotyping Protocols
Separated PCR: GAL Panel
Genotyping resources and troubleshooting

Appearance
albino
Related Genotype: \( a^A T r^C / a^A T r^C \)

Citation
Animal Health Reports
Facility Barrier Level Descriptions

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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<thead>
<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Inbred, 1 pair minimum will be supplied</td>
<td>$2,854.50</td>
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We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will
Related Products and Services

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>ALR/LtJ Frozen Embryos</td>
<td>$2595.00</td>
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All

By Allele

By Gene

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