B6.129S2-Aire\(^{tm1.1Doi}\)/J

Stock No: 004743 | Aire-

Targeted Mutation

Also Known As: Aire-, Aireo, HD Aire-
These autoimmune regulator knock-out mice may be useful in studies related autoimmune disease and tolerance induction.

Donating Investigator
Christophe Benoist, Joslin Diabetes Center

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>N11F5</td>
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<td></td>
<td>(2017-08-24 00:00:00)</td>
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<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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</thead>
<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Aire</td>
<td>autoimmune regulator (autoimmune polyendocrinopathy candidiasis ectodermal dystrophy)</td>
</tr>
</tbody>
</table>

RESEARCH APPLICATIONS

BASE PRICE
Starting at:

$76.22 Domestic price for female
Details

Detailed Description

Mice homozygous for the targeted allele are viable, normal in size and at birth do not display any gross physical or behavioral abnormalities. While a transcript may be generated from the targeted locus, a functional protein is not translated. Homozygous mice display a phenotype consistent with a broad defect in immunological tolerance induction. By four weeks of age histological analysis reveals lymphocytic infiltrates in some organs. Infiltrates become more prevalent as the mouse ages. Serum autoantibodies are detected by 3-6 months. The thymic medullary epithelial cell (MEC) number is doubled. Similarly, a near doubling in the numbers of activated/memory CD44^hi^CD62L^lo^ T lymphocytes is observed. A loss or reduction in expression occurs for a substantial number of genes in MECs, an observation consistent with the targeted gene’s role as a transcriptional activator. The Donating investigator reports that homozygotes are not fertile (most homozygous females are sterile due to ovarian autoimmunity, homozygous males can only breed for a short time and are subfertile). This mutant mouse strain may be useful in studies related autoimmune disease and tolerance induction.

Development

Control Suggestions

Selected References

Genetics

Aire^{tm1.10pi}

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support
Genotyping Protocols
MELT: Aire\textsuperscript{tm1.1Doe} Alternate 1
Genotyping resources and troubleshooting

Dietary Information
LabDiet\textsuperscript{®} 5K52 formulation (6% fat)

Breeding Considerations
When maintaining a live colony, these mice can be bred as heterozygotes. The Donating Investigator reports that homozygotes are not fertile (most homozygous females are sterile due to ovarian autoimmunity, homozygous males can only breed for a short time and are subfertile).

Additional Breeding and Husbandry Support

Mating System
Heterozygote x Heterozygote

Citation
When using this Aire mouse strain in a publication, please cite the originating article(s) and include JAX stock #004743 in your Materials and Methods section.

Facility Barrier Level Descriptions

Animal Health Reports

Pricing & Availability
3–6 week lead time for most orders depending on quantity and age range requested

Repository Live

### Pricing Table

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<thead>
<tr>
<th>Live Mouse</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Approx 4-8 weeks</td>
<td>Heterozygous for Aire\textsuperscript{tm1.1Doe}</td>
<td>$271.00</td>
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<tr>
<td>Approx 4-8 weeks</td>
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<tr>
<td>Approx 4-8 weeks</td>
<td>Wild-type for Aire\textsuperscript{tm1.1Doe}</td>
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<table>
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<tr>
<td>Male</td>
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