These B6.H2.A14β mice express a transgene containing a rearranged Tcrb derived from the pancreatic beta cell-reactive CD8 T lymphocyte clone AI4, and they exhibit reduced numbers of transgenic thymocytes and splenocytes compared to mice with the same transgene on a NOD background.

**Donating Investigator**

Dr. David Serreze, The Jackson Laboratory

**GENETIC OVERVIEW**

**Genetic Background**

**Generation**

**Tg(TcrbAI4)1Dvs**

**Allele Type**

Transgenic (Inserted expressed sequence)

**H297**

**Allele Type**

Not Applicable

**Gene Symbol**

H2

**Gene Name**

histocompatibility-2, MHC

**Marker(s)**

<table>
<thead>
<tr>
<th>Marker Symbol</th>
<th>Marker Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>D17Mit10</td>
<td>DNA segment, Chr 17, Massachusetts Institute of Technology 10</td>
</tr>
<tr>
<td>D17Mit21</td>
<td>DNA segment, Chr 17, Massachusetts Institute of Technology 21</td>
</tr>
</tbody>
</table>
Details

Detailed Description

This strain when crossed with stock #004554 generates a C57BL/6J congenic that is transgenic for a diabetogenic TCR in the presence of the NOD-derived $H2^{b'r}$. It is valuable in the assessment of non-MHC contributions to diabetogenesis from the C57BL/6J versus NOD inbred backgrounds. Compared with the TCR transgenic on the NOD background, this C57BL/6J congenic has a 31- and 4-fold reduction in the numbers of double positive and single positive transgenic thymocytes, respectively. The number of total splenocytes expressing this transgenic TCR is 1.7 fold lower than on the NOD background. However, while thymic negative selection is more efficient, the transgenic T cells that survive selection efficiently mediate diabetogenesis; all females were found to develop diabetes by 6 weeks of age, significantly faster than NOD mice with this transgenic TCR. The TCR transgenic T cells of C57BL/6J $H2^{b'r}$ congenic TCR alpha and beta double transgenic mice have a greater rate of thymic emigration, a greater proliferative response to antigen presentation, display more potent killing of pancreatic islet cells in cytotoxicity assays, and have a higher cell surface expression level of transgenic TCR, specifically the TCR alpha chain, than found on the NOD background.

Development

Expression Data

Selected References

Genetics
Tg(TcrbAI4)1Dvs

H2\textsuperscript{g7}

D17Mit10

D17Mit21

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols
Genotyping resources and troubleshooting

Citation
When using the B6.H2\textsuperscript{g7} A14B mouse strain in a publication, please cite the originating article(s) and include JAX stock #004555 in your Materials and Methods section.

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.

Cryo Recovery

Domestic

Pricing effective for USA, Canada and Mexico shipping destinations

<table>
<thead>
<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Homozygous for (D17Mit21-D17Mit10), Homozygous for Tg(TCRβAI4)1Dvs, 1 pair minimum</td>
<td>$2,854.50</td>
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</tbody>
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Related Products and Services

Frozen Mouse Embryo

<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>B6.NOD-(D17Mit21-D17Mit10) Tg(TCRβAI4)1Dvs/Dv Frozen Embryos</td>
<td>$2,595.00</td>
</tr>
</tbody>
</table>

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Terms Of Use

General Terms and Conditions

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