B6.Cg-Ptprc<sup>a</sup> Pepc<sup>b</sup> Tg(TcrLCMV)1Aox/PpmJ

Stock No: 030450 | SMARTA-1

Congenic, Transgenic, Variant Allele

AVAILABLE

PLACE ORDER

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

Overview

Also Known As: SMARTA-1
SMARTA-1 TCR transgenic line P13 has a CD4⁺ T cell repertoire that is specific for the H2-I-A<sup>b</sup>-restricted LCMV GP<sub>61-80</sub> epitope (lymphocytic choriomeningitis virus glycoprotein residues 61-80), as well as the CD45.1 allele. These mice may be useful in studying cellular mechanisms of CD4⁺ activation and differentiation and as a source of donor cells for adoptive transfer for in vivo studies of inflammation, tolerance and anti-viral responses.

**Donating Investigator**

Pablo Penaloza-MacMaster, Northwestern University

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>?&lt;sup&gt;+&lt;/sup&gt;PV1F4</td>
<td>(2019-06-12 00:00:00)</td>
</tr>
</tbody>
</table>

**Tg(TcrLCMV)1Aox**

**Allele Type**

Transgenic (Inserted expressed sequence)

**Pepc<sup>b</sup>**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>Pepc</td>
<td>peptidase C</td>
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</table>

**Ptprc<sup>a</sup>**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>Ptprc</td>
<td>protein tyrosine phosphatase, receptor type, C</td>
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</tbody>
</table>

**RESEARCH APPLICATIONS**

Research Tools

Immunology, Inflammation and Autoimmunity Research

**BASE PRICE**

Starting at:

- $255.00 Domestic price for female
- $10.00 Domestic price for breeder pair
Details

Detailed Description

The LCMV GP \(_{61-80}\) TCR transgenic line, SMARTA-1, is a C57BL/6-congenic mouse strain carrying a re-arranged T cell receptor (V 2.3-J DK1 and V 8.3-J 2.5) specific for peptide P13 from the LCMV (lymphocytic choriomeningitis virus) in the context of H2-I-A\(^b\). These mice have a CD4\(^+\) T cell repertoire that is specific for the LCMV GP\(_{61-80}\) epitope. SMARTA-1 mice exhibit differently skewed T cell populations, with a 27:1 ratio of single positive CD4:CD8 thymocytes. Hemizygous mice are viable and fertile.

SMARTA-1 TCR transgenic line P13 mice are further modified with the CD45.1 allele (Ptprc\(^b\)), rather than the alternate allele normally present in C57BL/6 or BALB/c inbred mice. As CD45 is expressed on all adaptive and innate immune cells, the presence of Ptprc\(^b\) in this strain can be used to distinguish the TCR transgenic mouse-derived cell populations from syngeneic host and/or other mice with the alternate allele via anti-CD45.1 antibody staining or flow cytometry.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(TcrLCMV)1Aox

Pepc\(^b\)

Ptprc\(^b\)

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support
Genotyping Protocols
QPCR: Tg(TcrLCMV)1Aox-beta qPCR
Probe: Ptprc<sup>ab</sup> End Point-Alternate 1
QPCR: Tg(TcrLCMV)1Aox-alp</p>halpha qPCR-alternate1
High Resolution Melling: Tg(TcrLCMV)1Aox-alpha
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining our live colony, mice hemizygous for the transgene and homozygous for CD45.1 (Ptprc<sup>b</sup>) may be bred to siblings that are non-transgenic (noncarrier) and homozygous for CD45.1, or to B6.CD45.1 inbred mice (Stock No. 002014). The donating investigator reports that the mice stop breeding after 2-3 consecutive breeding of SMARTA-1 males with SMARTA-1 females.

Additional Breeding and Husbandry Support

Mating System
Homozygous for Ptprc<sup>b</sup>, Homozygous for Pecp<sup>b</sup>, Hemizygous for Tg(TcrLCMV)1Aox x Homozygous for Ptprc<sup>b</sup>, Homozygous for Pecp<sup>b</sup>, non-carrier for Tg(TcrLCMV)1Aox and reciprocally.

Citation
When using the SMARTA-1 mouse strain in a publication, please cite the originating article(s) and include JAX stock #030450 in your Materials and Methods section.

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

<table>
<thead>
<tr>
<th>Domestic</th>
<th>International</th>
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<tr>
<td><strong>Live Mouse</strong></td>
<td><strong>PRICE</strong></td>
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<tr>
<td><strong>AGE</strong></td>
<td><strong>SEX</strong></td>
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<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
</tr>
<tr>
<td>Male</td>
<td>Homozygous for Ptprc&lt;sup&gt;b&lt;/sup&gt;, Homozygous for Pecp&lt;sup&gt;b&lt;/sup&gt;, Hemizygous for Tg(TcrLCMV)1Aox</td>
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<td>Female</td>
</tr>
<tr>
<td>Male</td>
<td>Homozygous for Ptprc&lt;sup&gt;b&lt;/sup&gt;, Homozygous for Pecp&lt;sup&gt;b&lt;/sup&gt;, Noncarrier</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Breeder Pair</th>
<th><strong>PRICE</strong></th>
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<tbody>
<tr>
<td><strong>SEX</strong></td>
<td><strong>GENOTYPE</strong></td>
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</tr>
</tbody>
</table>
Related Products and Services

| Frozen Mouse Embryo | $2,595.00 per straw or vial |

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**Related Strains**

- All
- By Allele
- By Gene
- By Collection

All Related Strains
Leading the search for
TOMORROW’S CURES