



C . C g - T g (T c r a / T c r b) 1 V b o / A j c a M m j a x

MMRRC Stock No: 43834-JAX | TS1

Congenic, Transgenic



CRYORECOVERY

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Overview

Also Known As: TCR-HA, TS1

TS1 mice express rearranged T cell receptor α/β chains specific for the MHC Class II I-E^d restricted S1 determinant site from influenza virus A/PR/8/34 hemagglutinin (PR8 HA). This mouse strain may be useful for studies of immune regulation, B and T cell tolerance, autoimmunity, and arthritis.

Donating Investigator

Andrew Caton, Wistar Institute

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GENETIC OVERVIEW

Genetic Background

Generation

Tg(Tcra/Tcrb)1Vbo

Allele Type

Transgenic (Inserted expressed sequence)

V I E W G E N E T I C S

RESEARCH APPLICATIONS

Immunology, Inflammation and Autoimmunity Research
Research Tools

V I E W A L L R E S E A R C H A P P L I C A T I O N S

– Details

– Detailed Description

TS1 mice express rearranged V α 4, J α 2B4/V β 8.2, V β 2.1 T cell receptor chains specific for peptide 111-119 from influenza virus A/PR/8/34 hemagglutinin (PR8 HA). The Class II I-E^d restricted epitope found in PR8-HA is known as the S1 determinant, a T cell determinant recognized by BALB/c mice. Mice homozygous for the transgene are viable and fertile with no observable phenotype. When combined with Tg(H2-Ea-HA)HACIIAcja transgenic mice (MMRRC Stock No. [043832](#)) expressing PR8 hemagglutinin (HA) neo-self antigen under the direction of the mouse MHC Class II Ea (H2-Ea) promoter, progeny develop spontaneous inflammatory arthritis with a female sex bias and a B cell requirement for disease development. Male mice exhibit decreased severity and a delay in disease onset as compared to female mice.

When combined with Tg(SV40-HA*)HA28Ajca transgenic mice (MMRRC Stock No. [043825](#)) expressing a truncated PR8 hemagglutinin (HA) neo-self antigen under the direction of the SV40 promoter, S1-specific T cells are not deleted, but undergo selection to become CD4⁺ Foxp3⁺ regulatory T cells. This mouse strain may be useful for studies of immune regulation, B and T cell tolerance, autoimmunity, and arthritis.

+ Development

+ Expression Data

+ Control Suggestions

+ Selected References

– Genetics

+ Tg(Tcra/Tcrb)1Vbo

– Disease/Phenotype

+ Disease Terms

+ Research Areas By Genotype

+ Mammalian Phenotype Terms by Genotype

+ References

– Technical Support

C H A T O F F L I N E

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

Standard PCR: [Tg\(Tcra/Tcrb\)1Vbo](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, these mice are bred by homozygote sibling matings.

[Additional Breeding and Husbandry Support](#)

Mating System

Noncarrier x Hemizygote

Hemizygote x Noncarrier

Citation

When using the T61 mouse strain in a publication, please [cite the originating article\(s\)](#) and include MMRRC stock #43834 in your

Materials and Methods section.

[Facility Barrier Level Descriptions](#)

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, [G200](#)

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