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MMRRC Stock No: 43832-JAX | HACII

Congenic, Transgenic



CRYORECOVERY

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Overview

Also Known As: HACII

HACII (Tg(H2-Ea-HA)HACIIA_{jca}) mice express a PR8 hemagglutinin (HA) neo-self antigen under the direction of the mouse MHC Class II E_a (H2-E_a) promoter. When combined with transgenic mice expressing an HA(S1)-specific T cell receptor, progeny spontaneously develop inflammatory arthritis. 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(H2-Ea-HA)HACIIAjca

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

HACII (Tg(H2-Ea-HA)HACIIAjca) mice express a PR8 hemagglutinin (HA) neo-self antigen under the direction of the mouse MHC Class II Ea (H2-Ea) promoter. HA includes S1, the major I-E^d-restricted PR8 HA 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(Tcra/Tcrb)1Vbo/Ajca transgenic mice (MMRRC Stock No. [043834](#)) expressing a high affinity S1-specific T cell receptor progeny spontaneously develop inflammatory arthritis, as well as joint inflammation and swelling. When combined with Tg(TcraS106-1,TcrbS106-1)TS1SWAjca transgenic mice (MMRRC Stock No. [043833](#)) expressing a low affinity S1(SW)-specific T cell receptor progeny also develop inflammatory arthritis, but with sex bias. Male mice exhibit decreased severity and a delay in disease onset as compared to female mice. 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(H2-Ea-HA)HACIIAjca

Disease/Phenotype

[+ Disease Terms](#)

[+ Research Areas By Genotype](#)

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

[- Technical Support](#)

C H A T O  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\(H2-Ea-HA\)HACIIA₁ca](#)

[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 HACI mouse strain in a publication, please [cite the originating article\(s\)](#) and include MMRRC stock #43832 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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