B6.Cg-Tg(TcraTcrb)425Cbn/J

Stock No: 004194 | OT-II

Congenic, Transgenic

AVAILABLE NOW

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Overview
Also Known As: OT-II

These OT-II transgenic mice express the mouse alpha-chain and beta-chain T cell receptor that pairs with the CD4 co-receptor and is specific for chicken ovalbumin 323-339 peptide in the context of I-A\(^b\) (CD4 co-receptor interaction with MHC class II). This results in CD4+ T cells that primarily recognize ovalbumin peptide residues 323-339 when presented by the MHC class II molecule. In these mice there is a four-fold increase in the CD4+ to CD8+ peripheral T cell ratio, and lymph node T cells demonstrate a dose-dependent proliferative response to the specific ovalbumin peptide (OVA\(_{323-339}\)). Immune response dynamics can be studied by direct administration of ovalbumin. These transgenic mice are useful for studying \textit{in vivo} T cell biology such as TCR-ligand interactions, T cell activation, thymic selection, cross-presentation of antigens, and central and peripheral T cell tolerance and induction. Like most TCR transgenics, these mice are somewhat immunodeficient.

Donating Investigator
Frank Carbone, University of Melbourne

GENETIC OVERVIEW

<table>
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<th>Genetic Background</th>
<th>Generation</th>
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\textbf{Tg(TcraTcrb)425Cbn}

Allele Type

Transgenic (Inserted expressed sequence)

RESEARCH APPLICATIONS

Immunology, Inflammation and Autoimmunity Research
These OT-II transgenic mice express the mouse alpha-chain and beta-chain T cell receptor that pairs with the CD4 coreceptor and is specific for chicken ovalbumin 323-339 in the context of I-A\textsuperscript{b}. Homozygous mice are viable and fertile. In these mice there is a four-fold increase in the CD4 to CD8 peripheral T cell ratio, and lymph node T cells demonstrate a dose-dependent proliferative response to the specific ovalbumin ligand. These transgenic mice are useful for studying in vivo T cell biology such as TCR-ligand interactions, T cell activation, thymic selection, cross-presentation of antigens, process of thymic selection and central and peripheral T cell tolerance and induction.
Genotyping Protocols

QPCR: Tg(Tcra)425Cbn QPCR
Standard PCR: Tg(Tcra)425Cbn STD PCR
Standard PCR: Tg(Tcra)425Cbn STD PCR
Standard PCR: Tg(Tcra)425Cbn STD PCR
QPCR: Tg(Tcra)425Cbn QPCR
Probe: Tg(Tcra)425Cbn Probe

Genotyping resources and troubleshooting

Dietary Information

LabDiet® 5K52 formulation (6% fat)

Breeding Considerations

This strain is a good breeder.

Additional Breeding and Husbandry Support

Mating System

Homozygote x Homozygote

Citation

When using the OT-II mouse strain in a publication, please cite the originating article(s) and include JAX stock #004194 in your Materials and Methods section.

Facility Barrier Level Descriptions

Animal Health Reports

Pricing & Availability

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Domestic International

Pricing effective for USA, Canada and Mexico shipping destinations
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