Overview

Also Known As: Ccr2, Cx3cr1

dual-reporter mice express red fluorescent protein in CCR2 positive peripheral monocytes, T cells and NK cells; and green fluorescent protein in monocytes, dendritic cells, NK cells and brain microglia. Both Ccr2 and Cx3cr1 are knock-in/knock-out alleles. These mice may be suitable for use in studies tracking myeloid lineage cell subpopulations, monocyte recruitment in inflammatory responses, leukocyte migration and trafficking, as well as for transplantation studies.

Donating Investigator

Joel D Ernst, New York University School of Medicine

GENETIC OVERVIEW

Genetic Background

Generation

?+pN1F1
(2019-03-04 00:00:00)

Ccr2
Allele Type
Targeted (Reporter, Null/Knockout)

Gene Symbol
Ccr2

Gene Name
chemokine (C-C motif) receptor 2

Cx3cr1
Allele Type
Targeted (Reporter, Null/Knockout)

Gene Symbol
Cx3cr1

Gene Name
chemokine (C-X3-C motif) receptor 1

B6.129(Cg)-Cx3cr1<sup>tm1Litt</sup> Ccr2<sup>tm2.1Ifc</sup> /JernJ

Stock No: 032127 | Ccr2<sup>tm2.1Ifc</sup> Cx3cr1<sup>tm1Litt</sup>

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

Detailed Description

CCR2 is a chemokine receptor expressed on monocytes which directs their recruitment to sites of inflammation found in diseases such as multiple sclerosis, atherosclerosis, rheumatoid arthritis, and experimental autoimmune encephalitis (EAE), following activation by monocyte chemoattractant proteins. The Cx3cr1 gene encodes the receptor for C-X3-C motif chemokine (CX3CR1), also known as fractalkine, which is involved in leukocyte adhesion and migration. The Cx3cr1 and Ccr2 genes are located in close proximity on mouse Chromosome 9.

These Ccr2<sup>RFP</sup> Cx3cr1<sup>GFP</sup> dual-reporter mutant mice, also called R2X3-RGFP, carry a monomeric red fluorescent protein (RFP) knock-in/knock-out allele of Ccr2 and a green fluorescent protein (EGFP) knock-in/knock-out allele of Cx3cr1. Red fluorescent protein expression is detected in CCR2 positive peripheral monocytes, T cells and NK cells; and green fluorescent protein expression is detected in monocytes, dendritic cells, NK cells and brain microglia. Mice that are homozygous for both mutations are viable and fertile. These double homozygotes lack functional CCR2 and CX3CR1 receptors.

Double homozygous mice exhibit impaired monocyte recruitment and enhanced susceptibility to experimental autoimmune encephalomyelitis.
**Disease/Phenotype**

**Disease Terms**

**Research Areas By Phenotype**

**Mammalian Phenotype Terms by Genotype**

**References**

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**Technical Support**

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**Genotyping Protocols**

- Standard PCR: Ccr2
- Standard PCR: Cx3cr1 alternate 1
- Probe: Cx3cr1 Probe Alternate1
- Probe: Ccr2 Probe

*Genotyping resources and troubleshooting*

**Dietary Information**

- New Diet as of March 2015: Lab Diet® 5K0Q (6% fat)

**Breeding Considerations**

When maintaining a live colony, these mice can be bred as homozygous for both alleles. Mice that are homozygous for both alleles are viable and fertile. The Cx3cr1 and Ccr2 genes are located in close proximity on mouse Chromosome 9.

**Additional Breeding and Husbandry Support**

**Mating System**

- Homozygous Cx3cr1 Homozygous Ccr2 x Homozygous Cx3cr1 Homozygous Ccr2

**Citation**

When using the Ccr2<sup>RFP</sup> Cx3cr1<sup>GFP</sup> mouse strain in a publication, please cite the originating article(s) and include JAX stock #032127 in your Materials and Methods section.

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**Animal Health Reports**

**Facility Barrier Level Descriptions**
## Pricing & Availability

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

Available

### Domestic

Pricing effective for USA, Canada and Mexico shipping destinations

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## Related Products and Services

Frozen Mouse Embryo

B6.129(Cg)-Cx3cr1<sup>tm1Litt</sup> Ccr2<sup>tm2.1Ifc</sup>/JernJ

$2595.00
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Phone: 207-288-6470
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