B6.129S4-Ccr2tm1lc/J

Stock No: 004999 | CCR2-

Congenic, Targeted Mutation

PLACE ORDER

0–2 week average lead time for 10 or more mice with age range
Also Known As: CCR2-

CCR2-deficient mice exhibit defective monocyte recruitment during immune responses.

Note, a similar KO/KI strain is also available that expresses EGFP from the Ccr locus (Stock No. 027619).

Donating Investigator

Israel F. Charo, Gladstone Inst of Cardiovascular Disease, UCSF

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**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
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<tbody>
<tr>
<td></td>
<td><strong>N9+N3F10</strong></td>
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<td>(2018-10-22 00:00:00)</td>
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</table>

**Ccr2<sup>tm1Ifc</sup>**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Ccr2</td>
<td>chemokine (C-C motif) receptor 2</td>
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**RESEARCH APPLICATIONS**

Research Tools
Immunology, Inflammation and Autoimmunity Research
Details

Detailed Description

Mice that are homozygous for the targeted mutation are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. No CCR2 mRNA is detected by RT-PCR analysis of spleen or thioglycollate elicited peritoneal exudate cells.

The absence of the CCR2 chemokine receptor in these mice affects monocyte/macrophage infiltration leading to inflammatory responses, which, in turn, impact various systematic processes including immune response to various pathogens, reduced retinal vasculature, aggravation of mnesic deficits, pathogenesis of angiotensin II-induced cardiac fibrosis, exacerbation of collagen-induced arthritis, and reduced hepatic steatosis in obese mice.

Specific effects include defective delayed-type hypersensitivity and production of Th1-type cytokine immune responses. Mycobacteria bovis purified protein derivative induced lung granulomas are initially smaller in size and contain fewer macrophages than wild-type controls. Ccr2-KO mice are extremely susceptible to pulmonary infection with Burkholderia mallei compared with wild-type mice. Increased mortality due to West Nile virus infection is seen. Mutant mice also exhibit decreased interferon-alpha production after lung granuloma induction. When challenged with thioglycollate treatment homozygotes respond with reduced peritoneal macrophage recruitment. Macrophages derived from these animals fail to migrate in response monocyte chemoattractant protein-1. Homozygotes are resistant to experimental autoimmune encephalomyelitis, a macrophage-mediated inflammatory disease.

Development

Control Suggestions

Selected References

Genetics

Ccr2^Int16c

Disease/Phenotype

Disease Terms
Genotyping Protocols
High Resolution Melting: Ccr2\textsuperscript{Im1/Im1c} - Alternate 4
Genotyping resources and troubleshooting

Dietary Information
LabDiet\textsuperscript{®} 5K52 formulation (6% fat)

Breeding Considerations
When maintaining a live colony, homozygous mice may be bred together.
Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Citation
When using the CCR2\textsuperscript{Im1/Im1c} mouse strain in a publication, please cite the originating article(s) and include JAX stock #004999 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions
AX12 (Maximum)

Pricing & Availability
0–2 week average lead time for 10 or more mice with age range

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<td>6 weeks</td>
<td>SEX</td>
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<tr>
<td>8 weeks</td>
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</tbody>
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#### Related Products and Services

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>$2,595.00 per straw or vial</td>
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</tbody>
</table>

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Phone: 207-288-6470

Email: TechTran@jax.org

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- All
- By Allele
- By Gene
- By Collection

All Related Strains
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Leading the search for
TOMORROW'S CURES

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