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
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 vascularation, 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.
Genotyping Protocols
Standard PCR: Ccr2-Alternate 4
Genotyping resources and troubleshooting
Dietary Information
LabDiet® 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- 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

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Frozen Mouse Embryo
B6.129S4-Ccr2<tm1Ifc>/J Frozen Embryos
$2595.00

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