

Recombinant Mouse CCR2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51461

Size: 10ug, 100ug

Protein Name: C-C chemokine receptor type 2 (C-C CKR-2) (CC-CKR-2) (CCR-2) (CCR2) (JE/FIC receptor) (MCP-1 receptor) (CD antigen CD192)

Synonym: Ccr2, Cmkbr2

UniProt ID: P51683

UniProt Link: www.uniprot.org/uniprotkb/P51683/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 373 AA

Molecular Weight: 43 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEDNNMLPQFIHGILSTSHSLFTRSIQELDEGATTPYDYDDGEPCHKTSVKQIGAWILPPLYSLVFIFG
FVGNMLVIIIIGCKKLKSMTDIYLLNLAISDLLFLLTLPFWAHYAANEWVFGNIMCKVFTGLYHIGYFGG
IFFIILLTIDRYLAIVHAVFALKARTVTFGVITSVVTWVAVFASLPGIIFTKSKQDDHHYTCGPYFTQLW
KNFQTIMRNILSLILPLLVMVICYSGILHTLFRCRNEKKRHRVRLIFAIMIVYFLFWTPYNIVLFLTTFQE
SLGMSNCVIDKHLDAQMQVTETLGMTHCCINPVIYAFVGEKFRRYLSIFFRKHIKRLCKQCPVFYRE
TADRVSSSTFTPSTGEQEVSVGL

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant C-C chemokine receptor type 2 (C-C CKR-2) (CC-CKR-2) (CCR-2) (CCR2) (JE/FIC receptor) (MCP-1 receptor) (CD antigen CD192) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Key functional receptor for CCL2 but can also bind CCL7 and CCL12 chemokines (PubMed:8631787, PubMed:8662823, PubMed:8996246). Its binding with CCL2 on monocytes and macrophages mediates chemotaxis and migration induction through the activation of the PI3K cascade, the small G protein Rac and lamellipodium protrusion (By similarity). Also acts as a receptor for the beta-defensin DEFB106A/DEFB106B (By similarity). Regulates the expression of T-cell inflammatory cytokines and T-cell differentiation, promoting the differentiation of T-cells into T-helper 17 cells (Th17) during inflammation (PubMed:28507030). Facilitates the export of mature thymocytes by enhancing directional movement of thymocytes to sphingosine-1-phosphate stimulation and up-regulation of S1P1R expression; signals through the JAK-STAT pathway to regulate FOXO1 activity leading to an increased expression of S1P1R (PubMed:29930553). Plays an important role in mediating peripheral nerve injury-induced neuropathic pain (PubMed:29993042). Increases NMDA-mediated synaptic transmission in both dopamine D1 and D2 receptor-containing neurons, which may be caused by MAPK/ERK-dependent phosphorylation of GRIN2B/NMDAR2B (PubMed:29993042). Mediates the recruitment of macrophages and monocytes to the injury site following brain injury (PubMed:24806994, PubMed:29632244).

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Note=The chemoattractant receptors are reportedly distributed throughout the cell surface; after stimulation with a ligand, such as CCL2, they are rapidly recruited into microdomain clusters at the cell membrane.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.