

# Recombinant Rat CCR2 Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP52215

Size: 10ug, 100ug

Protein Name: C-C chemokine receptor type 2 (C-C CKR-2) (CC-CKR-2) (CCR-2) (CCR2) (CD antigen CD192)

Synonym: Ccr2, Cmkbr2

UniProt ID: O55193

UniProt Link: [www.uniprot.org/uniprotkb/O55193/entry](http://www.uniprot.org/uniprotkb/O55193/entry)

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 373 AA

Molecular Weight: 43 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MEDSNMLPQFIHGILSTSHSLFPRSIQELDEGATTPYDYDDGEPCHKTSVKQIGAWILPPLYSLVFIFG  
FVGNMLVIIIISCKKLKSMTDIYLFNLAISDLLFLLTLPFWAHYAANNEWVFGNIMCKLFTGLYHIGYFGG  
IFFIILLTIDRYLAIVHAVFALKARTVTFTGVITSVVTWVAVFASLPGIIFTKSEQEDDQHTCGPYFPTIWK  
NFQTIMRNILSLILPLLVMVICYSGILHTLFRCRNEKKRHRVRLIFAIMIVYFLFWTPYNIVLFLTTFQEF  
LGMSNCVVDMLHDQAMQVTETLGMTHCCVNPPIYAFVGEKFRRYLSIFFRKHIAKNLCKQCPVFYRE  
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) (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 (By similarity). 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 (By similarity). 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 (By similarity). Plays an important role in mediating peripheral nerve injury-induced neuropathic pain (By similarity). 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 (By similarity). Mediates the recruitment of macrophages and monocytes to the injury site following brain injury (By similarity).

**Subcellular Localization:** Cell membrane ; Multi-pass membrane protein . Note=The chemoattractant receptors are 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.