

Recombinant Human ACKR2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50012

Size: 10ug, 100ug

Protein Name: Atypical chemokine receptor 2 (C-C chemokine receptor D6) (Chemokine receptor CCR-10) (Chemokine receptor CCR-9) (Chemokine-binding protein 2) (Chemokine-binding protein D6)

Synonym: ACKR2, CCBP2, CCR10, CMKBR9, D6

UniProt ID: O00590

UniProt Link: www.uniprot.org/uniprotkb/O00590/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 384 AA

Molecular Weight: 43 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAATASPQPLATEDADSENSSFYYYDYLDDEVAFMLCRKDAVVSFGKVFLPVFYSLIFVLGLSGNLLLL
MVLLRYVPRRRMVEIYLLNLAISNLLFLVTLFPWGISVAWHWVFGSFLCKMVSTLYTINFYSGIFFISC
MSLDKYLEIVHAQPYHRLRTRAKSLLLATIVWAVSLAVSIPDMVFVQTHENPKG VWNCHADFGGHGT
IWKLFLRFQQNLLGFLPLLAMIFFYSRIGCVLVRRLRPAGQGRALKIAAALVVAFFVLWFPYNLTFLHT
LLDLQVFGNCEVSQHLDYALQVTESIAFLHCCFSPILYAFSSHRFRQYLKAFLAAVLGWHLAPGTAQA
SLSSCSESSILTAQEEMTGMNDLGERQSENYPNKEDVGNKSA

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 Atypical chemokine receptor 2 (C-C chemokine receptor D6) (Chemokine receptor CCR-10) (Chemokine receptor CCR-9) (Chemokine-binding protein 2) (Chemokine-binding protein D6) 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: Atypical chemokine receptor that controls chemokine levels and localization via high-affinity chemokine binding that is uncoupled from classic ligand-driven signal transduction cascades, resulting instead in chemokine sequestration, degradation, or transcytosis (PubMed:18201974, PubMed:20373092, PubMed:23479571). Also known as interceptor (internalizing receptor) or chemokine-scavenging receptor or chemokine decoy receptor (PubMed:18201974, PubMed:20373092, PubMed:23479571). Acts as a receptor for chemokines including CCL2, CCL3, CCL3L1, CCL4, CCL5, CCL7, CCL8, CCL11, CCL13, CCL17, CCL22, CCL23, CCL24, SCYA2/MCP-1, SCY3/MIP-1-alpha, SCYA5/RANTES and SCYA7/MCP-3 (PubMed:18201974, PubMed:20373092, PubMed:23479571). Upon active ligand stimulation, activates a beta-arrestin 1 (ARRB1)-dependent, G protein-independent signaling pathway that results in the phosphorylation of the actin-binding protein cofilin (CFL1) through a RAC1-PAK1-LIMK1 signaling pathway (PubMed:23633677). Activation of this pathway results in up-regulation of ACKR2 from endosomal compartment to cell membrane, increasing its efficiency in chemokine uptake and degradation (PubMed:23633677). By scavenging chemokines in tissues, on the surfaces of lymphatic vessels, and in placenta, plays an essential role in the resolution (termination) of the inflammatory response and in the regulation of adaptive immune responses (PubMed:23479571). Plays a major role in the immune silencing of macrophages during the resolution of inflammation (By similarity). Acts as a regulator of inflammatory leukocyte interactions with lymphatic endothelial cells (LECs) and is required for immature/mature dendritic cells discrimination by LECs (PubMed:23479571).

Subcellular Localization: Early endosome . Recycling endosome . Cell membrane ; Multi-pass membrane protein . Note=Predominantly localizes to endocytic vesicles, and upon stimulation by the ligand is internalized via clathrin-coated pits (PubMed:18201974). Once internalized, the ligand dissociates from the receptor, and is targeted to degradation while the receptor is recycled back to the cell membrane (PubMed:18201974).

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.