

Recombinant Human CCR6 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50145

Size: 10ug, 100ug

Protein Name: C-C chemokine receptor type 6 (C-C CKR-6) (CC-CKR-6) (CCR-6) (Chemokine receptor-like 3) (CKR-L3) (DRY6) (G protein-coupled receptor 29) (GPR-CY4) (GPRCY4) (LARC receptor) (CD antigen CD196)

Synonym: CCR6, CKRL3, CMKBR6, GPR29, STRL22

UniProt ID: P51684

UniProt Link: www.uniprot.org/uniprotkb/P51684/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 374 AA

Molecular Weight: 42 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MSGESMNFSDVFDSSDYFVSVNTSYYSVDSEMLLCSLQEVQRQFSRLFVPIAYSLICVFGLLGNIILVV
ITFAFYKKARSMTDVYLLNMAIADILFVLTLPFWAVSHATGAWVFSNATCKLLKGIYAINFNCGMLLLT
CISMDRYIAIVQATKSFRLRSRTLPRSKIIICLVVWGLSVIISSTFVFNQKYNTQGSDVCEPKYQTVSE
PIRWKLLMLGLELLFGFFIPLMFMIFCYTFIVKTLVQAQNSKRHKAIRVIIAVVLVFLACQIPHNMVLLVT
AANLGKMNRSCQSEKLIGYTKTVTEVLAFLHCCLNPVLYAFIQKFRNYFLKILKDLWCVRRKYKSSG
FSCAGRYSENISRQTSETADNDNASSFTM

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 6 (C-C CKR-6) (CC-CKR-6) (CCR-6) (Chemokine receptor-like 3) (CKR-L3) (DRY6) (G protein-coupled receptor 29) (GPR-CY4) (GPCRY4) (LARC receptor) (CD antigen CD196) 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: Receptor for the C-C type chemokine CCL20 (PubMed:9169459). Binds to CCL20 and subsequently transduces a signal by increasing the intracellular calcium ion levels (PubMed:20068036). Although CCL20 is its major ligand it can also act as a receptor for non-chemokine ligands such as beta-defensins (PubMed:25585877). Binds to defensin DEFB1 leading to increase in intracellular calcium ions and cAMP levels. Its binding to DEFB1 is essential for the function of DEFB1 in regulating sperm motility and bactericidal activity (PubMed:25122636). Binds to defensins DEFB4 and DEFB4A/B and mediates their chemotactic effects (PubMed:20068036). The ligand-receptor pair CCL20-CCR6 is responsible for the chemotaxis of dendritic cells (DC), effector/memory T-cells and B-cells and plays an important role at skin and mucosal surfaces under homeostatic and inflammatory conditions, as well as in pathology, including cancer and various autoimmune diseases. CCR6-mediated signals are essential for immune responses to microbes in the intestinal mucosa and in the modulation of inflammatory responses initiated by tissue insult and trauma (PubMed:21376174). CCR6 is essential for the recruitment of both the pro-inflammatory IL17 producing helper T-cells (Th17) and the regulatory T-cells (Treg) to sites of inflammation. Required for the normal migration of Th17 cells in Peyer's-patches and other related tissue sites of the intestine and plays a role in regulating effector T-cell balance and distribution in inflamed intestine. Plays an important role in the coordination of early thymocyte precursor migration events important for normal subsequent thymocyte precursor development, but is not required for the formation of normal thymic natural regulatory T-cells (nTregs). Required for optimal differentiation of DN2 and DN3 thymocyte precursors. Essential for B-cell localization in the subepithelial dome of Peyer's-patches and for efficient B-cell isotype switching to IgA in the Peyer's-patches. Essential for appropriate anatomical distribution of memory B-cells in the spleen and for the secondary recall response of memory B-cells (By similarity). Positively regulates sperm motility and chemotaxis via its binding to CCL20 (PubMed:23765988).

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Cell surface .

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.