

Recombinant Human CXCR4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50239

Size: 10ug, 100ug

Protein Name: C-X-C chemokine receptor type 4 (CXC-R4) (CXCR-4) (FB22) (Fusin) (HM89) (LCR1) (Leukocyte-derived seven transmembrane domain receptor) (LESTR) (Lipopolysaccharide-associated protein 3) (LAP-3) (LPS-associated protein 3) (NPYRL) (Stromal cell-derived factor 1 receptor) (SDF-1 receptor) (CD antigen CD184)

Synonym: CXCR4

UniProt ID: P61073

UniProt Link: www.uniprot.org/uniprotkb/P61073/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 352 AA

Molecular Weight: 40 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEGISIYTS DNYTEEMGSGDYDSMKEPCFREANANFNKIFLPTIYSIIFLTGIVGNGLVILVMGYQKKLR
SMTDKYRLHLSVADLLFVITLPFWAVDAVANWYFGNFLCKAVHVIYTVNLYSSVLILAFISLDRYLAIVH
ATNSQRPRKLLAEKVYVGVWIPALLLTIPDFIFANVSEADDRYICDRFYPNDLWVVVFQFQHIMVGLI
LPGIVILSCYCIISKLSHSGHQRKALKTTVILILAFFACWLPYYIGISIDSFILLEIHKQGCEFENTVHKW
ISITEALAFFHCCLNPILYAFLGAKFKTSAQHALTSVSRGSSLKILSKGKRGGHSSVSTESSESSSFHSS

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-X-C chemokine receptor type 4 (CXC-R4) (CXCR-4) (FB22) (Fusin) (HM89) (LCR1) (Leukocyte-derived seven transmembrane domain receptor) (LESTR) (Lipopolysaccharide-associated protein 3) (LAP-3) (LPS-associated protein 3) (NPYRL) (Stromal cell-derived factor 1 receptor) (SDF-1 receptor) (CD antigen CD184) 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-X-C chemokine CXCL12/SDF-1 that transduces a signal by increasing intracellular calcium ion levels and enhancing MAPK1/MAPK3 activation (PubMed:10074102, PubMed:10452968, PubMed:10644702, PubMed:10825158, PubMed:18799424, PubMed:20048153, PubMed:20505072, PubMed:24912431, PubMed:28978524, PubMed:8752280, PubMed:8752281). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors, such as adenylate cyclase (PubMed:16725153, PubMed:17197449, PubMed:18799424, PubMed:39093700). CXCR4 is coupled to G(i) G alpha proteins and mediates inhibition of adenylate cyclase (PubMed:17197449, PubMed:39093700). Involved in the AKT signaling cascade (PubMed:24912431). Plays a role in regulation of cell migration, e.g. during wound healing (PubMed:28978524). Also acts as a receptor for extracellular ubiquitin; leading to enhanced intracellular calcium ions and reduced cellular cAMP levels (PubMed:20228059). Binds bacterial lipopolysaccharide (LPS) et mediates LPS-induced inflammatory response, including TNF secretion by monocytes (PubMed:11276205). Involved in hematopoiesis and in cardiac ventricular septum formation (By similarity). Also plays an essential role in vascularization of the gastrointestinal tract, probably by regulating vascular branching and/or remodeling processes in endothelial cells (By similarity). Involved in cerebellar development; in the CNS, could mediate hippocampal-neuron survival (By similarity).; (Microbial infection) Acts as a coreceptor (CD4 being the primary receptor) for human immunodeficiency virus-1/HIV-1 X4 isolates and as a primary receptor for some HIV-2 isolates. Promotes Env-mediated fusion of the virus (PubMed:10074122, PubMed:10756055, PubMed:8849450, PubMed:8929542, PubMed:9427609).

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Cell junction . Early endosome . Late endosome . Lysosome . Note=In unstimulated cells, diffuse pattern on plasma membrane (PubMed:10452968, PubMed:14602072, PubMed:21540189). On agonist stimulation, colocalizes with ITC1 at the plasma membrane where it becomes ubiquitinated (PubMed:14602072). In the presence of antigen, distributes to the immunological synapse forming at the T-cell-APC contact area, where it localizes at the peripheral and distal supramolecular activation cluster (SMAC) (PubMed:20215400).

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.