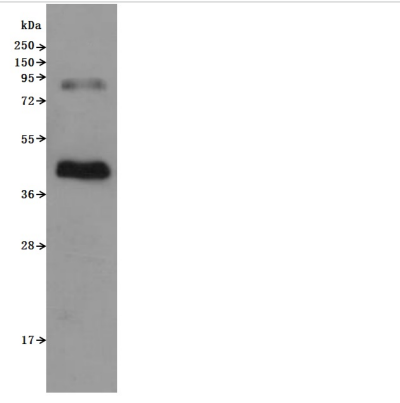
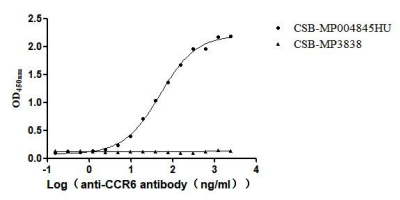
Recombinant Human C-C chemokine receptor type 6(CCR6)-VLPs (Active)

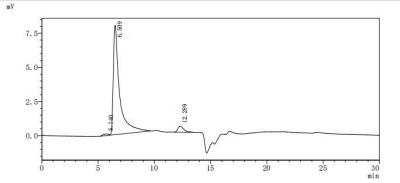
Product Code	CSB-MP004845HU
Abbreviation	Recombinant Human CCR6 protein-VLPs (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P51684
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered PBS, 6% Trehalose, pH 7.4
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human CCR6 at 10 μg/mL can bind Anti-CCR6 recombinant antibody (CSB-RA004845MA1HU). The EC50 is 44.79-56.10 ng/mL.The VLPs (CSB-MP3838) is negative control.
Purity	Greater than 90% as determined by SEC-HPLC.
Sequence	MSGESMNFSDVFDSSEDYFVSVNTSYYSVDSEMLLCSLQEVRQFSRLFVPIAY SLICVFGLLGNILVVITFAFYKKARSMTDVYLLNMAIADILFVLTLPFWAVSHATG AWVFSNATCKLLKGIYAINFNCGMLLLTCISMDRYIAIVQATKSFRLRSRTLPRS KIICLVVWGLSVIISSSTFVFNQKYNTQGSDVCEPKYQTVSEPIRWKLLMLGLEL LFGFFIPLMFMIFCYTFIVKTLVQAQNSKRHKAIRVIIAVVLVFLACQIPHNMVLLV TAANLGKMNRSCQSEKLIGYTKTVTEVLAFLHCCLNPVLYAFIGQKFRNYFLKIL KDLWCVRRKYKSSGFSCAGRYSENISRQTSETADNDNASSFTM
Source	Mammalian cell
Target Names	CCR6
Expression Region	1-374aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 10xHis-tagged (This tag can be tested only under denaturing conditions)
Mol. Weight	42.5 kDa
Protein Length	Full Length
Image	



CSB-MP004845HU is detected by Mouse anti-6*His monoclonal antibody. The two bands respectively correspond to monomer, Homodimer.



Activity
Measured by its binding ability in a functional ELISA. Immobilized Human CCR6 at 10μg/mL can bind Anti-CCR6 recombinant antibody (CSB-RA004845MA1HU)? the EC_{50} is 44.79-56.10 ng/mL.VLPs (CSB-MP3838) is negative control.



The purity of VLPs was greater than 90% as determined by SEC-HPLC

Description

This virus-like particle (VLP) formulation of full-length human CCR6 (amino acids 1-374) is expressed in mammalian cells with a C-terminal 10×His tag, preserving native receptor conformation and membrane protein topology. The recombinant CCR6 protein demonstrates high purity (>90% by SEC-HPLC) and low endotoxin levels (<1.0 EU/μg, LAL method), meeting rigorous standards for functional studies. Validated via ELISA, it exhibits specific binding to anti-CCR6 antibody (CSB-RA004845MA1HU) (EC_{50}: 44.79–56.10 ng/mL at 10 μg/mL immobilization), with VLPs (CSB-MP3838) serving as negative controls to confirm assay specificity. Mammalian expression ensures proper glycosylation and structural integrity, which are critical for CCR6's role in chemokine signaling and immune cell migration. The VLP format mimics natural receptor clustering, enhancing antigen presentation for antibody development. Lyophilized for stability, this CCR6 protein enables research into inflammatory diseases, T-cell trafficking, and therapeutic targeting of CCR6-mediated pathways in autoimmunity and cancer.

The CCR6 protein is a receptor belonging to the beta chemokine receptor family and is classified as a G protein-coupled receptor (GPCR). It is primarily expressed in various immune cell types, notably immature dendritic cells and memory T cells, suggesting its integral role in the immune system's function and regulation [1]. CCR6-CCL20 interaction is crucial for guiding the migration of CCR6-expressing cells to sites of inflammation and tissue damage, thereby facilitating immune responses [2][3].

CCR6 is also involved in various inflammatory and homeostatic processes. It is particularly significant in conditions such as inflammatory bowel disease (IBD), rheumatoid arthritis, and certain forms of cancer [2][4][5]. The receptor is expressed by various T cell subsets, including Th17 cells, which are pivotal in the development of autoimmune conditions, and Tregs, which contribute to maintaining immune tolerance [6][7][8]. Moreover, CCR6 expression on memory B cells is essential for their migration to antigen-rich areas in lymphoid tissues, highlighting its importance in immunologic memory [9][10].

The relevance of the CCR6-CCL20 axis extends to its implications in cancer biology. Elevated levels of CCR6 and its ligand CCL20 have been observed in numerous malignancies, including colorectal and lung cancers, where they appear to promote tumor growth and metastasis [4][5][11]. The mechanism often involves the recruitment of regulatory T cells and other immune cells to the tumor microenvironment, which can enhance tumor development and progression [12][13]. This cancer-related signaling indicates a dual role for CCR6, as it can function in anti-tumor immunity through T cell recruitment while simultaneously participating in processes that favor tumor progression through immune evasion mechanisms [14][15].

References:

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Endotoxin	Less than 1.0 EU/ug as determined by LAL method.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.