



Recombinant Human C-C chemokine receptor type 4 (CCR4) (Active)

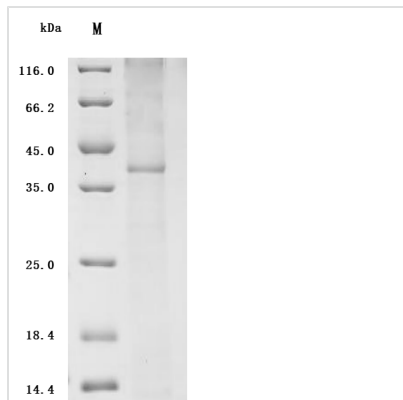
Product Code	CSB-CF004843HU
Abbreviation	Recombinant Human CCR4 protein (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P51679
Form	Lyophilized powder
Storage Buffer	PBS, 0.05% FOS-12, pH 8.0 6% Trehalose
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	<p>①Measured by its binding ability in a functional ELISA. Immobilized Human CCR4 at 5 µg/mL can bind Anti-CCR4 recombinant antibody (CSB-RA004843MA01HU). The EC50 is 2.803-3.369 ng/mL.</p> <p>②Human CCR4 Full Length Protein captured on CM5 chip can bind Human CCR4 Monoclonal Antibody (CSB-RA004843MA01HU) with an affinity constant of 3.16 nM as detected by SPR Assay(Biacore T200).</p> <p>③Human CCR4 Monoclonal Antibody (CSB-RA004843MA01HU) captured on Protein A Chip can bind Human CCR4 Full Length Protein with an affinity constant of 1.71 nM as detected by MetaSPR Assay (in presence of FOS-12)(WeSPRTM200) .</p>
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	<p>MNPTDIADTTTLDESIYSNYYLYESIPKPCTKEGIKAFGELFLPPLYSLVFVFGLLG NSVVVLVLFKYKRLRSMTDVYLLNLAISDLLFVFSLPFWGYAADQWVFGGLG CKMISWMYLVGFYSGIFFVMLMSIDRYLAIVHAVFSRLRARTLTYGVITSLATWSV AVFASLPGFLFSTCYTERNHTYCKTKYSLNSTTWKVLSSLEINILGLVIPLGIMLF CYSMIIRTLQHCKNEKKNKAVKMFVAVVFLFGFWTPYNIVLFLETLELEVLQD CTFERYLDYAIQATETLAFVHCCLNPIIYFFLGEKFRKYILQLFKTCRGLFVLCQY CGLLQIYSADTPSSSYTQSTMDHDLHDAL</p>
Source	in vitro E.coli expression system
Target Names	CCR4
Expression Region	1-360aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged
Mol. Weight	44.2 kDa



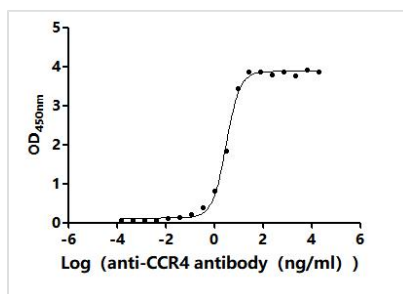
Protein Length

Full Length

Image

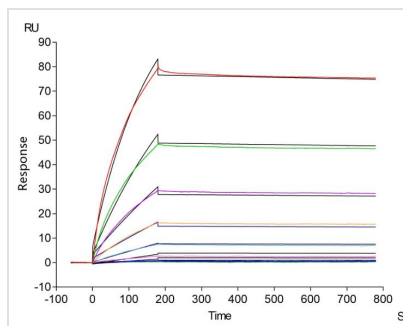


(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



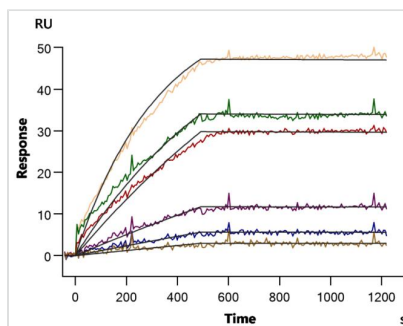
Activity

Measured by its binding ability in a functional ELISA. Immobilized Human CCR4 at 5 μ g/ml can bind Anti-CCR4 recombinant antibody (CSB-RA004843MA01HU). The EC_{50} is 2.803-3.369 ng/mL.



Activity

Human CCR4 Full Length Protein captured on CM5 chip can bind Human CCR4 Monoclonal Antibody (CSB-RA004843MA01HU) with an affinity constant of 3.16 nM as detected by SPR Assay(Biacore T200).



Activity

Human CCR4 Monoclonal Antibody (CSB-RA004843MA01HU) captured on Protein A Chip can bind Human CCR4 Full Length Protein with an affinity constant of 1.71 nM as detected by MetaSPR Assay (in presence of FOS-12)(WeSPR™ 200) .

Description

The recombinant human CCR4 protein is expressed from an in vitro E.coli expression system via the CCR4 cDNA clone corresponding to the 1-360aa of human CCR4 with an N-terminal 10xHis-tag. Its purity is greater than 85% as determined by SDS-PAGE. Its biological activity has been validated through three applications including ELISA, SPR assay, and MetaSPR assay. In a functional ELISA, this recombinant CCR4 protein can bind the anti-CCR4



recombinant antibody (CSB-RA004843MA01HU), with the EC₅₀ of 2.803-3.369 ng/mL. In the SPR assay, this CCR4 protein captured on a CM5 chip can bind the human CCR4 monoclonal antibody (CSB-RA004843MA01HU) with an affinity constant of 3.16 nM. It can bind the human CCR4 monoclonal antibody (CSB-RA004843MA01HU) captured on Protein A Chip with an affinity constant of 1.71 nM as detected by MetaSPR assay.

The human CCR4 protein is a critical component of the CCR4-NOT complex, which plays a significant role in various cellular processes, including mRNA degradation, transcription regulation, and RNA silencing. As a member of the G-protein coupled receptor family, CCR4 is predominantly expressed on T lymphocytes, particularly Th2 cells, where it serves as a specific marker and is involved in immune responses, including those related to atopic dermatitis and other inflammatory diseases [1]. The CCR4 protein interacts with several chemokines, notably CCL17 and CCL22, which are known to attract CCR4-expressing cells, thereby influencing immune cell trafficking and function [2].

In addition to its role in immune responses, human CCR4 exhibits enzymatic activity as part of the CCR4-NOT complex, specifically functioning as a deadenylase. This activity is crucial for the removal of poly(A) tails from mRNA, a process that is essential for mRNA degradation and regulation of gene expression [3][4]. The CCR4-NOT complex, which includes other proteins such as Caf1 and various Not proteins, is involved in multiple aspects of RNA metabolism, including mRNA transport, decapping, and quality control [5][6]. The deadenylation activity of CCR4 is particularly important in maintaining cellular homeostasis and regulating the stability of mRNAs, such as those encoding the cyclin-dependent kinase inhibitor p27, which is vital for cell cycle regulation [7].

Moreover, the CCR4 protein is implicated in various diseases, including cancers and autoimmune disorders, due to its role in modulating immune responses and influencing cell proliferation [8]. The understanding of CCR4's functions has led to the exploration of therapeutic strategies targeting CCR4-expressing cells, particularly in the context of immunotoxins designed to selectively eliminate these cells in cancer treatment [8].

References:

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[8] Z. Wang, W. Min, H. Zhang, H. Chen, S. Germana, C. Huang, et al. Diphtheria toxin based anti human ccr4 immunotoxin for targeting human ccr4+ cells in vivo, Molecular Oncology, vol. 9, no. 7, p. 1458-1470, 2015. <https://doi.org/10.1016/j.molonc.2015.04.004>

Endotoxin	/
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.