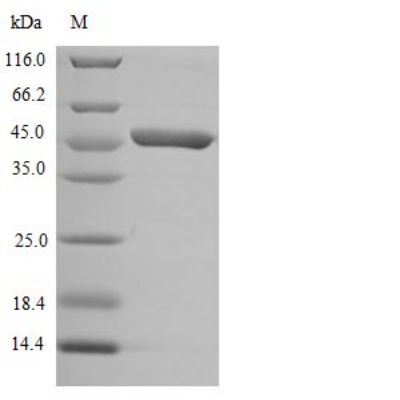
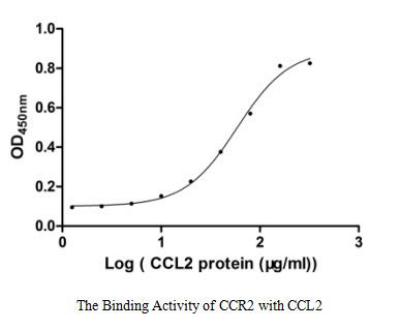
Recombinant Human C-C chemokine receptor type 2 (CCR2) (Active)

Product Code	CSB-CF004841HU
Relevance	Receptor for the CCL2, CCL7 and CCL13 chemokines. Receptor for the beta-defensin DEFB106A/DEFB106B. Transduces a signal by increasing intracellular calcium ion levels. Upon CCL2 ligation, mediates chemotaxis and migration induction through the activation of the PI3K cascade, the small G protein Rac and lamellipodium protrusion (Probable).
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.	P41597
Storage Buffer	Tris-based buffer,50% glycerol
Product Type	Others
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized CCR2 at 1 μg/ml can bind human CCL2, the EC50 of human CCL2 protein is 41.51-83.15 μg/ml.
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MLSTSRSRFIRNTNESGEEVTTFFDYDYGAPCHKFDVKQIGAQLLPPLYSLVFI FGFVGNMLVVLILINCKKLKCLTDIYLLNLAISDLLFLITLPLWAHSAANEWVFGN AMCKLFTGLYHIGYFGGIFFIILLTIDRYLAIVHAVFALKARTVTFGVVTSVITWLV AVFASVPGIIFTKCQKEDSVYVCGPYFPRGWNNFHTIMRNILGLVLPLLIMVICY SGILKTLLRCRNEKKRHRAVRVIFTIMIVYFLFWTPYNIVILLNTFQEFFGLSNCE STSQLDQATQVTETLGMTHCCINPIIYAFVGEKFRSLFHIALGCRIAPLQKPVCG GPGVRPGKNVKVTTQGLLDGRGKGKSIGRAPEASLQDKEGA
Research Area	Cancer
Source	in vitro E.coli expression system
Gene Names	CCR2
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	N-terminal 10xHis-tagged
Mol. Weight	45.4 kDa
Protein Description	Full Length
Image	



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



The Binding Activity of CCR2 with CCL2

Description

The recombinant human C-C chemokine receptor type 2 (CCR2) protein is a cell-free system in vitro E.coli expressed full-length protein with good activity. In cell-free systems, the plasmid vector containing the gene that encodes the full-length CCR2 protein (1-374aa) can be induced to express the protein in vitro using extracts of whole cells that are compatible with translation. The purity of this recombinant human CCR2 protein is greater than 85% as measured by SDS-PAGE. Its activity has been validated in a functional ELISA.

CCR2 is a protein found on certain immune cells like monocytes and macrophages, guiding them to areas of injury and inflammation [1]. It interacts with different proteins like CCL2, CCL7, CCL8, CCL12, and CCL13 [2]. When CCR2 is activated, it triggers signals inside cells that control how they stick to surfaces and move around, especially in macrophages [3]. This protein is crucial for bringing inflammatory cells to sites of inflammation and also plays a part in bone cell development [4][5]. It's involved in various health conditions, including cancer, kidney injuries, cognitive problems from head radiation, and heart failure [6][7][8][9]. Scientists have found that CCR2 might affect inflammation, brain cell growth, brain cell activity, and thinking abilities [6]. In breast cancer, CCR2 seems to help cancer cells grow and spread [10]. It also helps regulate levels of certain signaling molecules in the blood [11]. Some researchers think that targeting the CCL2–CCR2 pathway could be a way to treat traumatic brain injuries [12].

References:

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