CCR1 – C-C Chemokine Receptor type 1 # PL021

Product specification

Acronym: CCR1
Synonyms: HM145, LD78 receptor, RANTES-R, MIP-1alpha-R
Origin species : Human
Protein reference : P32246 (UniProtKB)
NP_001286.1 (GenBank)
Family: GPCR class A

Expression system: E.coli based CFPS
Format: Proteoliposomes
Protein sequence: Met1 – Phe355
Tag : 6xHis tag (N-ter)
Cleavage site: Factor Xa
Product MW: 43.7 kDa
Application: Drug screening & discovery, antibody development, structural biology

Product description

The ligands of this receptor include macrophage inflammatory protein 1 alpha (MIP-1 alpha), regulated on activation normal T expressed and secreted protein (RANTES), monocyte chemoattractant protein 3 (MCP-3), and myeloid progenitor inhibitory factor-1 (MPIF-1). These chemokines and their receptor mediated signal transduction are critical for the recruitment of effector immune cells to the site of inflammation. CCR1-C-C Chemokine Receptor type 1-is one of the most prevalent targets for drug development according to the distribution of patents for small molecule inhibitors of chemokine receptors.

Recombinant protein sequence

His tag – factor X cleavage site –
METPNTTEDYDTTTEFDYGDATPCQKVNERAFGAQLLPPLYSLVFVIGLVGNILVVLVLVQYKRLKNMTSIYLLNLAISDLLFLFTLP
FWIDYKLKDDWVFGDAMCKILSGFYYTGLYSEIFFIILLTIDRYLAIVHAVFALRARTVTFGVITSIIIWALAILASMPGLYFSKTQWE
FTHHTCSLHFPHESLREWKLFQALKLNLFGLVLPLLVMIICYTGIIKILLRRPNEKKSKAVRLIFVIMIIFFLFWTPYNLTILISVFQDFL
FTHECEQSRHLDLAVQVTEVIAYTHCCVNPVIYAFVGERFRKYLRQLFHRRVAVHLVKWLPFLSVDRLERVSSTSPSTGEHELSAGF

Quality analysis

Purity:
Liposomes are directly incorporated into the Cell-Free reaction, thus, some impurities from the *E.coli* lysate might be present in the proteoliposomes.
A negative control (proteoliposomes without the protein of interest) can be provided (useful for screening, immunization…).
The purity can be improved by protein expression in detergent and relipidification after purification step(s).

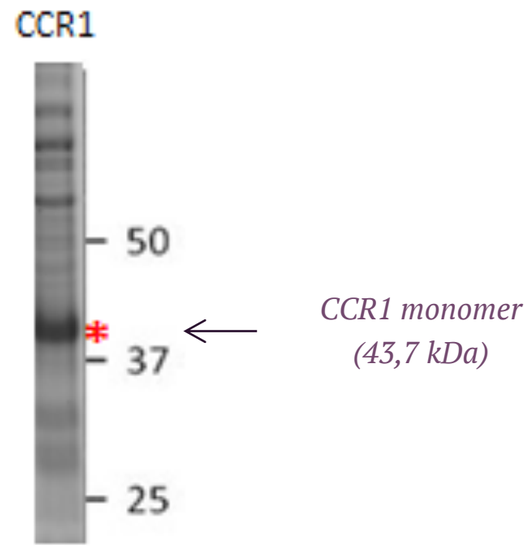


Fig.1: *Identification of CCR1 in proteoliposomes by Western blot using an anti-6xHis antibody).*

Purification procedure: CCR1 proteoliposomes are purified on a sucrose gradient.

NB : Migration of membrane proteins on SDS-PAGE can results in « gel shifting » due to the presence of hairpins (helix-loop-helix)[1-3].

References :
1 – Rath A., et al., Detergent binding explains anomalous SD-PAGE migration of membrane proteins PNAS, 2009 Feb 10, vol. 106
2 – Rath A., et al., Acrylamide concentration determines the direction and magnitude of helical membrane protein gel shifts, PNAS, 2013 Sep 24, 110(39)
3 – Rath A., et al., Correction factors for membrane protein molecular weight readouts on sodium dodecyl sulfate-polyacrilamide gel electrophoresis, Anal. Biochem., 2013 Mar 1, 434(1)

Formulation

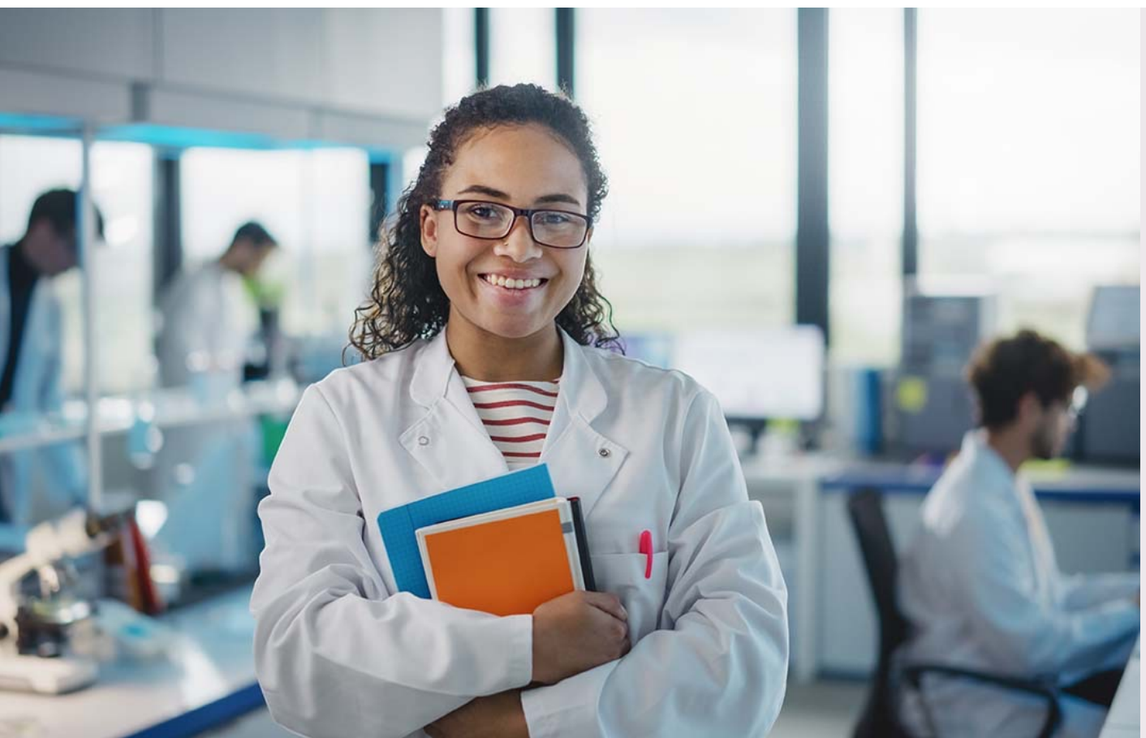
Buffer: Available in Hepes 50mM, pH 7.5 with cryoprotectants. Other buffers or customized formulation can be provided upon request.

Customized Hydrophobic matrix: Customized formulation with specific lipids like PEGylated or biotinylated lipids can be used upon request, as well as targeting molecules.

Storage/Stability: Store at +4°C for up to one week or several months at -80°C. Aliquot for storage.
Do not freeze-thaw after aliquoting.

Use restrictions: For life science research use only.

Available sizes: 10 µg, 50 µg, 100 µg, customized quantity on request.



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