Monocyte Chemotactic Protein-1/MCAF (CCL2), human recombinant (rHuMCP-1)

Catalog No: 94843
Lot No: XXXXX
Source: *E. coli*
Synonyms: Small inducible cytokine A2, CCL2, Monocyte chemotactic protein 1, MCP-1, Monocyte chemoattractant protein 1, Monocyte chemotactic and activating factor, MCAF, Monocyte secretory protein JE, HC11, chemokine (C-C motif) ligand 2, MCP1, SCYA2, GDCF-2, SMC-CF, HSMCR30, MGC9434, GDCF-2 HC11, Platelet-derived growth factor-inducible protein JE

Background

Chemokine (C-C motif) ligand 2 (CCL2) is a small cytokine belonging to the CC chemokine family that is also known as monocyte chemotactic protein-1 (MCP-1). It is found at the site of tooth eruption and bone degradation. In the bone, CCL2 is expressed by mature osteoclasts and osteoblasts and is under the control of nuclear factor ?B (NF?B). CCL2 recruits immune cells, such as monocytes, to sites of tissue injury and infection. This chemokine is produced as a protein precursor containing signal peptide of 23 amino acids and a mature peptide of 76 amino acids. It is a monomeric polypeptide, with a molecular weight of approximately 13 kDa. As with many other CC chemokines, CCL2 is located on chromosome 17 in humans. The cell surface receptors that bind CCL2 are CCR2 and CCR5.

Description

Monocyte Chemotactic protein-1 human recombinant also known as Monocyte Chemotactic and Activating Factor (MCAF) produced in *E. coli* is a non-glycosylated, polypeptide chain containing 76 amino acids and having a molecular mass of 8.6 kDa. MCP-1 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

The protein was lyophilized from a concentrated (1 mg/ml) sterile solution without any additives.

Solubility

It is recommended to reconstitute the lyophilized Monocyte Chemotactic Protein-1 in sterile 18 MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized MCP-1, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CCL2 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 98.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

QPDAINAPVT CCYNFTNRKI SVQRLASYRR ITSSKCPKEA VIFKTIVAKE ICADPKQKWV QDSMDHLDKQ TQTPKT

Activity

The specific activity as determined by the ability of MCP-1 to chemoattract human THP-1 cells is detectable starting from 1 ng/ml.

Usage

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