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**Product Data Sheet**


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Product Name: MCP 1 Rat  
 Cat. No.: GP21153  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
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; Immediate-early serum-responsive JE protein.		
Amino Acid Sequence	QPDAVNAPLT CCYSFTGKMI PMSRLENYKR ITSSRCPKEA VVFVTKLKRE ICADPNKEWV QKYIRKLDQN QVRSETTVFY KIASLRTSA PLNVNLTHKS EANASTLFST TTSSTSVEVT SMTEN.		
Solubility	It is recommended to reconstitute the lyophilized Monocyte Chemotactic Protein-1 in sterile 18MΩ-cm H <sub>2</sub> O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.		
Formulation	The protein was lyophilized from a concentrated (1mg/ml) sterile solution containing no additives.		

**Introduction**

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  $\kappa$ B (NF $\kappa$ 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 13kDa. As with many other CC chemokines, CCL2 is located on chromosome 17 in humans. The cell surface receptors that bind CCL2

**Caution: Product has not been fully validated for medical applications. For research use only.**

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are CCR2 and CCR5.

### Biological Activity

ED50 =1-10ng/ml corresponding to a Specific Activity of 100,000-1,000,000IU/mg. The biological activity was determined by measuring the dose dependent chemotaxis with human THP-1 cells. The optimal concentration should be determined for each specific application by an initial dose-response assay.

### 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.

### Background

Monocyte Chemotactic Protein-1 Rat Recombinant produced in E.Coli is a non-glycosylated, Polypeptide chain containing 125 amino acids and having a molecular mass of 14.1 kDa. The MCP-1 is purified by proprietary chromatographic techniques.

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