

## MCP 1 Rat

**Description:** 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.

**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-C

**Source:** Escherichia Coli.

**Physical Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.

**Amino Acid Sequence:** QPDAVNAPLT CCYSFTGKMI PMSRLENYKR ITSSRPCKEA  
VVFVTKLKRE ICADPNKEWV QKYIRKLDQN QVRSETTVFY KIASTLR TSA PLNVNLTHKS  
EANASTLFST TTSSTSVEVT SMTEN.

**Purity:** Greater than 95.0% as determined by SDS-PAGE.

### Formulation:

The protein was lyophilized from a concentrated (1mg/ml) sterile solution containing no additives.

### Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

### Solubility:

It is recommended to reconstitute the lyophilized Monocyte Chemotactic Protein-1 in sterile 18M-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

### 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 B (NFB). 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 are CCR2 and CCR5.

### Biological Activity:

ED<sub>50</sub> = 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.

### Storage:

www.neobiolab.com

info@neobiolab.com

888.754.5670, +1 617.500.7103 United States

0800.088.5164, +44 020.8123.1558 United Kingdom

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.

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