



Product Data Sheet

Cat # RP-1007

Recombinant Human Monocyte Chemotactic Protein-1/MCAF (CCL2)

Size: 5 ug

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 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.

**Source:**

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 8607 Dalton. The MCP-1 is purified by proprietary chromatographic techniques. *Escherichia Coli*. The protein was lyophilized from a concentrated (1 mg/ml) sterile solution containing no additives.

**Application and Dilutions:** It is recommended to reconstitute the lyophilized Monocyte Chemotactic Protein-1 in sterile 18 M $\Omega$ -cm H<sub>2</sub>O not less than 100  $\mu$ g/ml, which can then be further diluted to other aqueous solutions. Users must optimize the appropriate concentration and conditions for each assay.

**Storage and Stability:** Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE. Lyophilized MCP-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18 $^{\circ}$ C. Upon reconstitution CCL2 should be stored at 4 $^{\circ}$ C between 2-7 days and for future use below -18 $^{\circ}$ C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). If supplied in powder then reconstitute it in 100  $\mu$ l water for 1 mg/ml stock and store in liquid at 4 $^{\circ}$ C for ~1 week or aliquots in suitable size and store at -20 $^{\circ}$ C for long term storage.

**Please prevent freeze-thaw cycles.** If supplied in powder then reconstitute it in 100  $\mu$ l water for 1 mg/ml stock and store in liquid at 4 $^{\circ}$ C for ~1 week or aliquots in suitable size and store at -20 $^{\circ}$ C for long term storage.

**Biological Activity:** The specific activity as determined by the ability of MCP-1 to chemoattract human Monocytes using a concentration of 5-20 ng/ml.

**Usage:**

This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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