

Recombinant Rat Monocyte Chemotactic Protein-1 (CCL2 / rr MCP-1)

Synonyms: Small inducible cytokine A2 (SCYA2), Monocyte chemotactic and activating factor (MCAF), Monocyte secretory protein JE, HC11, chemokine (C-C motif) ligand 2, GDCF-2, Platelet-derived growth factor-inducible protein JE.

Introduction: MCP-1 is a small cytokine belonging to the CC chemokine. It is found at the site of tooth eruption and bone degradation. In the bone MCP-1 is expressed by mature osteoclasts and osteoblasts and is under the control of nuclear factor κ B (NF κ B). MCP-1 recruits immune cells, such as monocytes, to sites of tissue injury and infection. It 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 MCP-1 is located on chromosome 17 in humans. The cell surface receptors that bind MCP-1 are CCR2 and CCR5.

Description: Recombinant rat MCP-1 produced in *E.Coli* is a non-glycosylated, polypeptide chain containing 125 amino acids and having a molecular mass of 14092 Dalton. The rr MCP-1 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a concentrated (1 mg/ml) sterile solution containing no additives. The aliquotes of 1 μ g and 2 μ g contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rr MCP-1 in sterile H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rr MCP-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rr MCP-1 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 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Gln-Pro-Asp-Ala-Val.

Biological Activity: ED₅₀ = 1.0-10.0 ng/ml. 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.

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<i>small</i>	2 μ g	Cat.N°	13343382
<i>medium</i>	10 μ g	Cat.N°	13343383
<i>large</i>	50 μ g	Cat.N°	13343385
<i>x-large</i>	250 μ g	Cat.N°	13343387

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