

# Recombinant Human CCL2

Catalog # FL102

## Product Specifications

Appearance	Sterile filtered White lyophilized (freeze-dried) powder.
Purity	> 97% by SDS-PAGE or HPLC.
Endotoxin	< 0.1 EU/μg of rHuMCP-1/CCL2 protein as determined by LAL method.
Expression System	Expressed in E. coli.
Species	Human
Tag	Tag free.
Activity	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human monocytes is in a concentration range of 10-100 ng/ml.
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in 20 mM PB, with 150 mM NaCl, pH 7.4.
Reconstitution	Before use this product, please read the direction below carefully. This vial must be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in a sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at ≤ -20°C. Further dilutions should be made in appropriate buffered solutions.
Accession #	P13500 Gln24-Thr99
Amino acid sequence	QPDAINAPVTCCYNFTNRKISVQRLASYRRITSSKCPKEAVIFKTIVAKEICADPKQKWVQDSMDHLDKQTQTPKT
Molecular weight	Approximately 8.6 kDa, a single non-glycosylated polypeptide chain containing 76 amino acids.
Synonyms	HC11, Monocyte chemoattractant protein 1, MCAF, MCP-1, Monocyte secretory protein JE, Small-inducible cytokine A2
Stability & Storage	Shipped on wet ice. For long term storage, the product should be stored ≤ -20°C. Please avoid repeated freeze-thaw cycles after reconstitution. 36 months from date of receipt, -20 to -70°C as supplied. 1 month, 2 to 8°C under sterile conditions after reconstitution. 3 months, -20 to -70°C under sterile conditions after reconstitution.
Precautions	Recombinant Human CCL2 is for research use only and not for use in diagnostic or therapeutic procedures.

## Background

CCL2, also named monocyte chemotactic protein-1 (MCP-1) and small inducible cytokine A2, is a small cytokine that belongs to the CC chemokine family. It is a monomeric polypeptide, with a molecular weight of approximately 13kDa and it is anchored in the plasma membrane of endothelial cells by glycosaminoglycan side chains of proteoglycans. Research shows that CCR2 and CCR4 are two cell surface receptors that bind CCL2. CCL2 exhibits a chemotactic activity for monocytes and basophils. However, it does not attract neutrophils or eosinophils. CCL2 has been implicated in the pathogenesis of diseases characterized by monocyte infiltrates, like psoriasis, rheumatoid arthritis or atherosclerosis and it may be involved in the recruitment of monocytes into the arterial wall during the disease process of atherosclerosis. Mature human CCL2 shares 78-79% a.a. identity with canine, porcine and equine CCL2, while mouse and rat express a form of CCL2 that is extended by 49 a.a. and shares only ~56% a.a. identity within the common region. The MCP family cross-reacts across species. Recombinant Human MCP-1 is an 8.6kDa protein containing 76 amino acid residues, including the four highly conserved cysteine residues present in the CC chemokines.

