

# Recombinant Human CCL2/MCP-1 Protein

Catalog No.: RP02898LQ **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Human	6347	P13500

### Tags

No tag

### Synonyms

CCL2;GDCF-2;HC11;HSMCR30;MCAF;MCP-1;MCP1;SCYA2;SMC-CF

## Product Information

Source	Purification
HEK293	> 95% by Tris-Bis PAGE;> 95% by SEC-HPLC

### Endotoxin

< 1 EU/μg of the protein by LAL method.

### Formulation

0.22 μm filtered solution of PBS, pH 7.4.

### Reconstitution

0.2 mg/mL in sterile PBS, pH7.4

## Background

CCL2, also called monocyte chemotactic protein-1 (MCP-1) or JE, is a member of the C-C or beta chemokine family that is best known as a chemotactic agent for mononuclear cells (1, 2). Human CCL2 cDNA encodes a 99 amino acid (aa) precursor protein with a 23 aa signal peptide and a 76 aa mature protein (2). Removal of the first 5 aa of the mature protein, including the N-terminal pyrrolidone carboxylic acid-modified glutamine, occurs naturally by metalloproteinase cleavage and down-regulates activity but not receptor binding (3). CCL2 may form multiple bands from 8.7-13.5 kDa on SDS-PAGE due to non-covalent dimerization and variable carbohydrate content (3). Mature human CCL2 shares 78-79% aa identity with canine, porcine and equine CCL2, while mouse and rat express a form of CCL2 that is extended by 49 aa and shares only ~56% aa identity within the common region. Human CCL2 can, however, induce a response in murine cells (4). Fibroblasts, glioma cells, smooth muscle cells, endothelial cells, lymphocytes and mononuclear phagocytes can produce CCL2 either constitutively or upon mitogenic stimulation, but monocytes and macrophages appear to be the major source (1, 2). In addition to its chemotactic activity, CCL2 induces enzyme and cytokine release by monocytes, NK cells and lymphocytes, and histamine release by basophils that express its receptor, CCR2 (2). Additionally, it promotes Th2 polarization in CD4+ T cells (5). CCL2-mediated recruitment of monocytes to sites of inflammation is proposed to play a role in the pathology of atherosclerosis, multiple sclerosis and allergic asthma (6, 7).

## Basic Information

### Description

Recombinant human CCL2/MCP-1 Protein is produced by HEK293 expression system. The target protein is expressed with sequence (Gln24-Thr99) of human CCL2/MCP-1 (Accession #) fused with additional amino acid free.

### Bio-Activity

### Storage

Store at ≤-70°C, stable for 12 months after receipt. Store at ≤-70°C, stable for 3 months under sterile conditions after opening. Please minimize freeze-thaw cycles. Avoid repeated freeze/thaw cycles.

## Contact

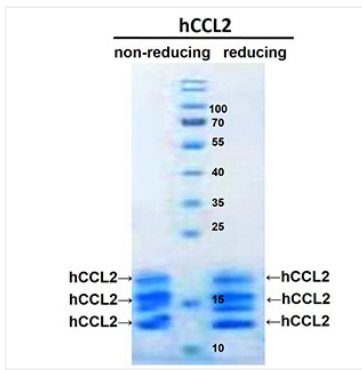
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## Validation Data

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Human CCL2/MCP-1 on Tris-Bis PAGE under reduced condition. The purity is greater than 95%.