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# MCP-1/CCL2

Catalog # PVGS1498

## Product Information

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| **Primary Accession** | P13500 |
| **Species** | Human |
| **Sequence** | Gln24-Thr99 |
| **Purity** | > 95% as analyzed by SDS-PAGE |
| **Endotoxin Level** | |
| **Biological Activity** | The $EC_{50}$ value of human MCP-1/CCL2 on $Ca^{2+}$ mobilization assay in CHO-K1/Gα15/hCCR2 cells (human Gα15 and human CCR2 stably expressed in CHO-K1 cells) is less than 1.0 □g/ml. |
| **Expression System** | E. coli |
| **Formulation** | Lyophilized after extensive dialysis against PBS. |
| **Reconstitution** | It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in dd$H_2O$ or PBS up to 100 □g/ml. |
| **Storage & Stability** | Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles. |

## Additional Information

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| **Gene ID** | 6347 |
| **Other Names** | C-C motif chemokine 2, HC11, Monocyte chemoattractant protein 1, Monocyte chemotactic and activating factor, MCAF, Monocyte chemotactic protein 1, MCP-1, Monocyte secretory protein JE, Small-inducible cytokine A2, CCL2, MCP1, SCYA2 |
| **Target Background** | CCL2, also known as monocyte chemotactic and activating factor (MCAF), was initially purified independently by two groups based on its ability to chemoattract monocytes. Subsequent to its cloning and sequencing, it became evident that this protein is also identical to the product of the human JE gene. The JE gene, originally identified in mouse fibroblasts, is a plateletderived growth factor (PDGF)inducible gene. The human CCL2 cDNA encodes a 99 amino acid residue precursor protein with a 23 residue hydrophobic signal peptide that is cleaved to generate the 76 residue mature protein. Natural CCL2 is heterogeneous in size due to the addition of Olinked carbohydrates and sialic acid residues. In addition to fibroblasts □¾ tumor |

cells, smooth muscle cells, endothelial cells, and mononuclear phagocytes can also produce CCL2 either constitutively or upon stimulation by various stimuli. CCL2 is a member of the β (CC) subfamily of chemokines. Recently, the existence of MCP2 and MCP3 with 62% and 73% amino acid identity respectively, to CCL2 have been reported.

## Protein Information

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| **Name** | CCL2 |
| **Synonyms** | MCP1, SCYA2 |
| **Function** | Acts as a ligand for C-C chemokine receptor CCR2 (PubMed: 10529171, PubMed:10587439, PubMed:9837883). Signals through binding and activation of CCR2 and induces a strong chemotactic response and mobilization of intracellular calcium ions (PubMed:10587439, PubMed:9837883). Exhibits a chemotactic activity for monocytes and basophils but not neutrophils or eosinophils (PubMed:8195247, PubMed:8627182, PubMed:9792674). May be involved in the recruitment of monocytes into the arterial wall during the disease process of atherosclerosis (PubMed:8107690). |
| **Cellular Location** | Secreted |
| **Tissue Location** | Expressed in the seminal plasma, endometrial fluid and follicular fluid (at protein level) (PubMed:23765988). Expressed in monocytes (PubMed:2513477). |

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