

Human MCP-1

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MW (kDa):	UniProt ID:	Entrez-Gene Id:
8.6	#P13500	6347

Background

MCP-1 (CCL2) is the first member of the C-C family of chemokines to be identified (1). C-C chemokines are characterized by two adjacent cysteine residues within the polypeptide, which form an intramolecular disulfide bond. MCP-1 is a potent chemotactic factor for monocytes/macrophages, T cells and a subset of NK cells (1-4). The MCP-1 receptor, CCR2, is expressed as two splice isoforms, CCR2A and CCR2B, of which CCR2B is the predominant form (1). MCP-1 is secreted by adipocytes and appears to be one of many links between obesity, inflammation, and diabetes (1). MCP-1/CCR2 signaling appears to play a key role in $\gamma\delta$ effector T cells recruitment and anti-tumor responses in a murine B16 melanoma model (2). Conversely, CCL2 expression is upregulated in many types of cancer and has been implicated in promoting tumor cell survival, proliferation, and tumor associated inflammation (4).

Endotoxin

Less than 0.01 ng endotoxin/1 μ g hMCP-1.

Purity

>95% as determined by SDS-PAGE of 6 μ g reduced (+) and nonreduced (-) recombinant hMCP-1. All lots are greater than 95% pure.

Source / Purification

Recombinant Human MCP-1 (hMCP-1) Gln24-Thr99 (Accession #NP_002973) was expressed in *E. coli* at Cell Signaling Technology.

Bioactivity

The activity of hMCP-1 was determined using a THP-1 cell migration assay. The ED₅₀ of each lot is between 1-11 ng/ml.

Background References

1. Panee, J. (2012) *Cytokine* 60, 1-12.
2. Lança, T. et al. (2013) *J Immunol* 190, 6673-80.
3. van Helden, M.J. et al. (2012) *PLoS One* 7, e52027.
4. Zhang, J. et al. (2010) *Cytokine Growth Factor Rev* 21, 41-8.

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