



## ANTI-MCP-1 , HUMAN

Anti-Monocyte Chemotactic Protein-1, Human

Product Number **M-253**

### Product Description

Anti-MCP-1, human was developed by immunizing goats with purified *E. coli*-derived recombinant human MCP-1 as the immunogen. MCP-1 specific IgG was purified by MCP-1 affinity chromatography.

This antibody will not neutralize the biological activity of mouse JE/MCP-1, human MCP-2 (Cat. No. M-244) or human MCP-3 (Cat. No. M-245). Based on immunoblotting results, shows less than 10% cross-reactivity with human eotaxin (Cat. No. E-158) under reducing conditions, and less than 5% cross-reactivity with human MCP-2, MCP-3 and mouse JE/MCP-1 under non-reducing and reducing conditions. Shows no cross-reactivity with other cytokines tested using direct ELISA.

Neutralization Dose 50 (ND50) is defined as the concentration of antibody required to yield one-half maximal inhibition of the cytokine activity on a responsive cell line, when that cytokine is present at a concentration just high enough to elicit a maximum response. The ND50 is approximately 0.8 - 2.5 µg/ml in the presence of 0.1 µg/ml of human MCP-1, using the human monocyte chemotaxis assay.

Identical to the product of the human JE gene. The JE gene, originally identified in mouse fibroblasts, is a platelet-derived growth factor (PDGF)-inducible gene. MCP-1 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 MCP-1 is heterogeneous in size due to the addition of O-linked carbohydrates and sialic acid residues. Tumor cells, smooth muscle cells, endothelial cells, and mononuclear phagocytes can also produce MCP-1 in addition to fibroblasts, either constitutively or upon stimulation by various stimuli. The existence of MCP-2 (Cat. No. M-244) and MCP-3 (Cat. No. M-245) with 62% and 73% amino acid identity, respectively, to MCP-1 have been reported.

## Product Information

Will also activate monocytes to be cytostatic for some human tumor cell lines, to increase cytosolic free calcium, to generate and release monocyte superoxide anions and to release monocyte lysosomal enzymes in vitro. Capable of regulating adhesion molecule expression and cytokine production in human monocytes as well as chemoattracting, activating, and inducing histamine release from basophils. A specific receptor for MCP-1 has been cloned from THP-1 and MonoMac 6 cells.

### Reagents

Anti-MCP-1 , human is provided lyophilized from a sterile filtered solution in phosphate buffered saline (PBS).

### Preparation Instructions

Anti-MCP-1, human should be reconstituted with sterile phosphate buffered saline (PBS). 1 ml of PBS will yield a 0.1 mg/ml solution.

### Storage/Stability

Store tightly sealed at -20°C. After reconstitution and for continuous use, store at 2 - 8°C for up to one month. For extended storage, solution may be frozen in working aliquots. Storage in "frost-free" freezers is not recommended. Repeated freezing and thawing is not recommended.

### Product Profile

In ELISA, Anti-MCP-1, human can be used at 0.5 - 1.0 µg/ml. The detection limit is approximately 0.16 ng/well. In immunoblotting it can be used at 0.1 - 0.2 µg/ml. The detection limit is approximately 5 ng/lane under non-reducing and reducing conditions.

### References

1. Wolf, G., et al. "AT1-receptor antagonists abolish glomerular MCP-1 expression in a model of mesangial proliferative glomerulonephritis." *Exp. Nephrol.* **6**, 112-120 (1998).

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