

RECOMBINANT HUMAN MONOCYTE CHEMOTACTIC PROTEIN-1 (hMCP-1/CCL2)

Catalog # 02664	10 mg per vial
Catalog # 02864	50 mg per vial

PRODUCT DESCRIPTION:

Monocyte chemotactic protein-1 (MCP-1) is a member of the β (CC) family of chemokines. The protein is identical to the product of the human *JE* gene which is a platelet-derived growth factor (PDGF)-inducible gene. MCP-1 is produced by fibroblasts, tumor cells, smooth muscle cells, endothelial cells, and mononuclear phagocytes. MCP-1 is a chemoattractant for monocytes. In addition, it activates monocytes to be cytostatic for some human tumor cell lines; it increases cytosolic free calcium; it generates and releases monocyte superoxide anions and monocyte lysosomal enzymes *in vitro*. MCP-1 was reported to be capable of regulating adhesion molecule expression and cytokine production in human monocytes as well as chemoattracting, activating, and inducing histamine release from basophils. MCP-1 can bind to CCR1 and a specific receptor cloned from THP-1 and MonoMac 6 cells. Human 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. The recombinant mature protein has a predicted molecular mass of approximately 8.7 kDa.

SOURCE:

A DNA sequence encoding mature human MCP-1 was expressed in *E. coli*.

PURITY:

Greater than 97%, as determined by SDS-PAGE and visualized by silver stain. Endotoxin level less than 0.1 ng per 1 μ g of the cytokine as determined by the LAL method.

FORMULATION:

Lyophilized from a sterile solution in PBS containing 50 μ g of bovine serum albumin per 1 μ g of cytokine.

RECONSTITUTION:

It is recommended that sterile PBS containing at least 0.1% human serum albumin or bovine serum albumin be added to the vial to prepare a stock solution of no less than 1 μ g/mL of the cytokine.

STABILITY/STORAGE:

Lyophilized samples are stable for greater than six months at -20°C to -70°C. Reconstituted human MCP-1/CCL2 can be stored under sterile conditions at 2°C to 4°C for one month or at -20°C to -70°C for three months without detectable loss of activity.

Avoid repeated freeze-thaw cycles.

ACTIVITY:

Activity was determined by monocyte chemotaxis and the ability to chemoattract mouse BaF/3 cells transfected with human CCR2A. The ED₅₀ for these effects were typically 5 - 20 ng/mL and 10 - 60 ng/mL, respectively.

**THIS REAGENT IS FOR RESEARCH USE ONLY.
IT IS NOT TO BE ADMINISTERED TO HUMANS.**