Human CCL2/JE/MCP-1
Biotinylated Antibody
Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: BAF279

**DESCRIPTION**

**Species Reactivity**  
Human

**Specificity**  
Detects human CCL2/JE/MCP-1 in ELISAs and Western blots. In sandwich immunoassays, less than 0.05% cross-reactivity with recombinant human (rh) MCP-2, rhMCP-3, rhMCP-4, recombinant mouse (rm) CCL2/JE/MCP-1, and mMARC is observed.

**Source**  
Polyclonal Goat IgG

**Purification**  
Antigen Affinity-purified

**Immunogen**  
E. coli-derived recombinant human CCL2/JE/MCP-1 (R&D Systems, Catalog # 279-MC)  
Gln24-Thr99  
Accession # P13500

**Formulation**  
Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**APPLICATIONS**

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

<table>
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<th>Recommended Concentration</th>
<th>Sample</th>
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<tr>
<td>0.1 μg/mL</td>
<td>Recombinant Human CCL2/JE/MCP-1 (Catalog # 279-MC)</td>
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**Western Blot**

- **ELISA Capture**  
  2-8 μg/mL  
  Human CCL2/JE/MCP-1 Antibody (Catalog # MAB679)

**ELISA Capture**

- 2-8 μg/mL  
  Human CCL2/JE/MCP-1 Antibody (Catalog # MAB679R)

**ELISA Detection**

- 0.1-0.4 μg/mL  
  Human CCL2/JE/MCP-1 Biotinylated Antibody (Catalog # BAF279)

**Standard**

- Recombinant Human CCL2/JE/MCP-1 (Catalog # 279-MC)

**PREPARATION AND STORAGE**

**Reconstitution**

Reconstitute at 0.2 mg/mL in sterile PBS.

**Shipping**

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**

- Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
  - 12 months from date of receipt, -20 to -70 °C as supplied.
  - 1 month, 2 to 8 °C under sterile conditions after reconstitution.
  - 6 months, -20 to -70 °C under sterile conditions after reconstitution.

**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 platelet-derived 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 O-linked carbohydrates and sialic acid residues. In addition to fibroblasts; 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 (C-C) subfamily of chemokines. The existence of MCP-2 and MCP-3 with 62% and 73% amino acid identity respectively, to CCL2 have been reported.

Consistent with it being a member of the chemokine β family, CCL2 has been shown to chemoattract monocytes. In addition, it 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. CCL2 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. The biological roles played by CCL2 in a number of inflammatory and non-inflammatory disease states characterized by the accumulation of leukocytes at the site of the lesion, including atherosclerosis, delayed hypersensitivity reactions, etc., are being determined. CCL2 can bind to the C-C chemokine receptor-1 that also binds MIP-1α, RANTES and MIP-1β. A specific receptor for CCL2 has also been cloned from THP-1 and MonoMac 6 cells.