Human CCL2/JE/MCP-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-279-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CCL2/JE/MCP-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 80% cross-reactivity with recombinant canine MCP-1 is observed, and approximately 10% cross-reactivity with recombinant mouse MCP-1, recombinant human (rh) MCP-2, rhMCP-3, and rhEotaxin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human CCL2/JE/MCP-1 Gln24-Thr99 Accession # P13500
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

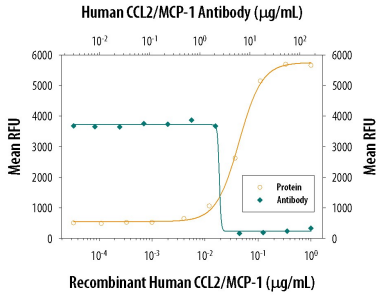
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human CCL2/JE/MCP-1 (Catalog # 279-MC)
Neutralization	Measured by its ability to neutralize CCL2/JE/MCP-1-induced chemotaxis in the BaF3 mouse pro-B cell line transfected with human CCR2A. The Neutralization Dose (ND_{50}) is typically 1.5-4.5 µg/mL in the presence of 150 ng/mL Recombinant Human CCL2/JE/MCP-1.	

DATA

Neutralization



Chemotaxis Induced by CCL2/MCP-1 and Neutralization by Human CCL2/MCP-1 Antibody. Recombinant Human CCL2/MCP-1 (Catalog # 279-MC) chemoattracts the BaF3 mouse pro-B cell line transfected with human CCR2A in a dose-dependent manner (orange line). The amount of cells that migrated through to the lower chemotaxis chamber was measured by Resazurin (Catalog # AR002). Chemotaxis elicited by Recombinant Human CCL2/MCP-1 (150 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human CCL2/MCP-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-279-NA). The ND_{50} is typically 1.5-4.5 µg/mL.

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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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.

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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. 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.