Canine CCL2/JE/MCP-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1774

DESCRIPTION

Species Reactivity	Canine
Specificity	Detects canine CCL2/JE/MCP-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant human (rh) CCL2/MCP-1 is observed, approximately 10% cross-reactivity with recombinant mouse (rm) JE, recombinant rat JE, and recombinant cotton rat JE is observed, and less than 5% cross-reactivity with rhEotaxin, rmMARC, and rhMCP-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant canine CCL2/JE/MCP-1 Gln24-Pro101 Accession # P52203
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.

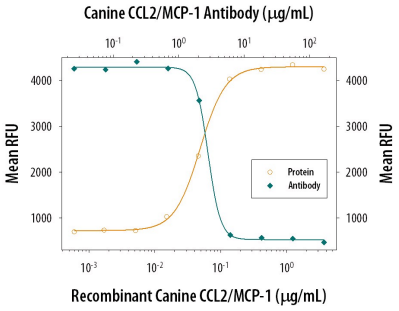
APPLICATIONS

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 Canine CCL2/JE/MCP-1 (Catalog # 1774-MC)
Immunocytochemistry	5-15 µg/mL	Immersion fixed canine peripheral blood mononuclear cells
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 0.8-4.0 µg/mL in the presence of 300 ng/mL Recombinant Canine CCL2/JE/MCP-1.	

DATA

Neutralization



Chemotaxis Induced by CCL2/JE/MCP-1 and Neutralization by Canine CCL2/JE/MCP-1 Antibody. Recombinant Canine CCL2/JE/MCP-1 (Catalog # 1774-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 Canine CCL2/JE/MCP-1 (300 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Canine CCL2/JE/MCP-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1774). The ND_{50} is typically 0.8-4.0 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.
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

Canine MCP-1 (monocyte chemotactic protein-1) is an 8 kDa member of the CC chemokine family of chemotactic factors (1, 2). It is synthesized as a 101 amino acid (aa) precursor that contains a 23 aa signal sequence and a 78 aa mature segment (3). It contains no potential N-linked glycosylation sites and is not known for any posttranslational modifications. Based on human studies, MCP-1 will primarily circulate as a monomer. Noncovalent dimers are likely to be found, however. MCP-1 activity has been localized to the N-terminus (1). Cell types known to secrete MCP-1 are considerable in number, and include keratinocytes, fibroblasts, endothelium, osteoblasts, macrophages, mast cells, smooth muscle cells and astrocytes (1, 2). In the mature MCP-1 segment, there is 82% and 83% aa identity, canine to human and porcine MCP-1, respectively. When mature canine MCP-1 is compared to (125 aa) extended rodent MCP-1, there is 55% and 56% aa identity, canine to mouse and rat MCP-1, respectively. MCP-1 has three possible receptors. The first two are CCR2 (1) and CCR11 (4). The third receptor has only been identified in mice and is called L-CCR (5). Its function is unknown. MCP-1 is best known as a chemotactic agent for mononuclear cells. It also, however, induces enzyme and cytokine release in monocytes, NK cells, and lymphocytes and histamine release by basophils (1). Additionally, it is believed to reduce IL-12 production by dendritic cells and promote a Th2 phenotype in $CD4^+$ T cells (6).

References:

1. Coillie, E.V. *et al.* (1999) Cytokine Growth Factor Rev. **10**:61.
2. Yoshie, O. *et al.* (2001) Adv. Immunol. **78**:57.
3. Kumar, A.G. *et al.* (1997) Circulation **95**:693.
4. Biber, K. *et al.* (2003) J. Leukoc. Biol. **74**:243.
5. Luther, S.A. and J.G. Cyster (2001) Nat. Immunol. **2**:102.