

DESCRIPTION

Species Reactivity	Canine
Specificity	Detects canine CCL2/JE/MCP-1 in direct ELISAs and Western blots. In direct ELISAs, 80-100% cross-reactivity with recombinant human CCL2 and recombinant mouse SDF-1 α is observed. In Western blots, no cross-reactivity with recombinant human CCL1, 2, 3, 5, 7, 8, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, recombinant mouse CCL1, 2, 3, 4, 5, 6, 7, 9, 11, 12, 17, 19, 20, 21, 22, 24, 25, 27, or recombinant rat CCL20 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 280707
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant canine CCL2/JE/MCP-1 Gln24-Pro101 (predicted) Accession # P52203
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m 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	1 μ g/mL	Recombinant Canine CCL2/JE/MCP-1 (Catalog # 1774-MC)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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

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.