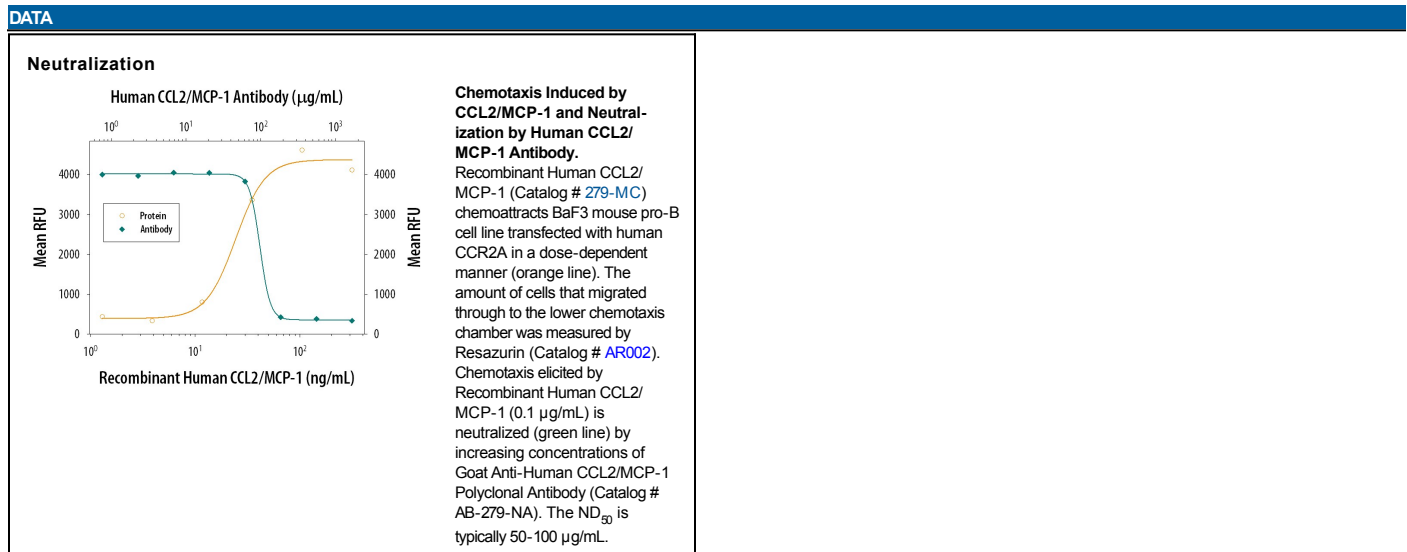


DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CCL2/JE/MCP-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant canine MCP-1 is observed, and less than 1% cross-reactivity with recombinant human (rh) MCP-2, rhMCP-3, rhMCP-4, and recombinant mouse MCP-5 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Protein A or G purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human CCL2/JE/MCP-1 Gln24-Thr99 Accession # P13500
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS and NaCl with Trehalose. See Certificate of Analysis for details.

APPLICATIONS	
<b>Please Note:</b> Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
	<b>Recommended Concentration      Sample</b>
<b>Western Blot</b>	1 µg/mL      Recombinant Human CCL2/JE/MCP-1 (Catalog # 279-MC)
<b>Neutralization</b>	Measured by its ability to neutralize CCL2/JE/MCP-1-induced chemotaxis in BaF3 mouse pro-B cell line transfected with human CCR2A. The Neutralization Dose (ND <sub>50</sub> ) is typically 50-100 µg/mL in the presence of 0.1 µg/mL Recombinant Human CCL2/JE/MCP-1.



PREPARATION AND STORAGE	
<b>Reconstitution</b>	Reconstitute at 1 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

CCL2, also called monocyte chemoattractant protein-1 (MCP-1) or JE, is a member of the C-C or  $\beta$  chemokine family that is best known as a chemotactic agent for mononuclear cells (1, 2). Human CCL2 cDNA encodes a 99 amino acid (aa) precursor protein with a 23 aa signal peptide and a 76 aa mature protein (2). Removal of the first 5 aa of the mature protein, including the N-terminal pyrrolidone carboxylic acid-modified glutamine, occurs naturally by metalloproteinase cleavage and downregulates activity but not receptor binding (3). CCL2 may form multiple bands from 8.7-13.5 kDa on SDS-PAGE due to non-covalent dimerization and variable carbohydrate content (3). Mature human CCL2 shares 78 - 79% aa identity with canine, porcine and equine CCL2, while mouse and rat express a form of CCL2 that is extended by 49 aa and shares only ~56% aa identity within the common region. Human CCL2 can, however, induce a response in murine cells (4). Fibroblasts, glioma cells, smooth muscle cells, endothelial cells, lymphocytes and mononuclear phagocytes can produce CCL2 either constitutively or upon mitogenic stimulation, but monocytes and macrophages appear to be the major source (1, 2). In addition to its chemotactic activity, CCL2 induces enzyme and cytokine release by monocytes, NK cells and lymphocytes, and histamine release by basophils that express its receptor, CCR2 (2). Additionally, it promotes Th2 polarization in CD4<sup>+</sup> T cells (5). CCL2-mediated recruitment of monocytes to sites of inflammation is proposed to play a role in the pathology of atherosclerosis, multiple sclerosis and allergic asthma (6, 7).

**References:**

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