

## DESCRIPTION

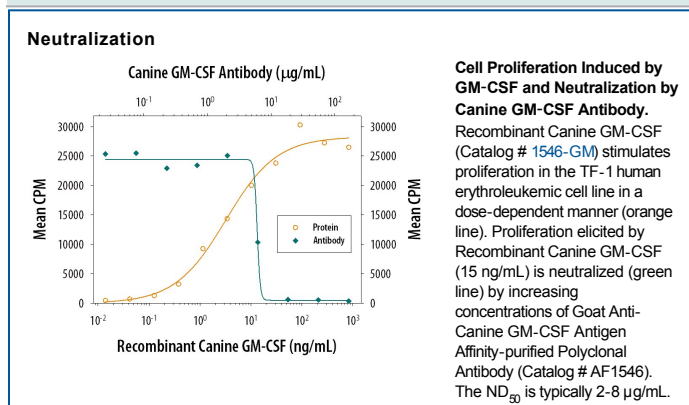
<b>Species Reactivity</b>	Canine
<b>Specificity</b>	Detects canine GM-CSF in direct ELISAs and Western blots. In Western blots, approximately 25% cross-reactivity with recombinant rat GM-CSF is observed, approximately 5% cross-reactivity with recombinant feline GM-CSF and recombinant porcine GM-CSF is observed, and less than 1% cross-reactivity with recombinant human GM-CSF and recombinant mouse GM-CSF is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant canine GM-CSF Ala18-Lys144 Accession # P48749.1
<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 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
<b>Western Blot</b>	0.1 µg/mL	Recombinant Canine GM-CSF (Catalog # <a href="#">1546-GM</a> )
<b>Immunocytochemistry</b>	5-15 µg/mL	Immersion fixed canine lymphocytes
<b>Neutralization</b>	Measured by its ability to neutralize GM-CSF-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> <b>140</b> :323. The Neutralization Dose (ND <sub>50</sub> ) is typically 2-8 µg/mL in the presence of 15 ng/mL Recombinant Canine GM-CSF.	

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 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>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <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

GM-CSF was initially characterized as a factor that can support the *in vitro* colony formation of granulocyte-macrophage progenitors. It is also a growth factor for erythroid, megakaryocyte, and eosinophil progenitors. GM-CSF is produced by a number of different cell types (including T cells, B cells, macrophages, mast cells, endothelial cells, fibroblasts, and adipocytes) in response to cytokine or inflammatory stimuli. On mature hematopoietic cells, GM-CSF is a survival factor for and activates the effector functions of granulocytes, monocytes/macrophages, and eosinophils (1, 2). GM-CSF promotes a Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity (3-5). It shows clinical effectiveness in ameliorating chemotherapy-induced neutropenia, and GM-CSF transfected tumor cells are utilized as cancer vaccines (6, 7). The 22 kDa glycosylated GM-CSF, similar to IL-3 and IL-5, is a cytokine with a core of four bundled  $\alpha$ -helices (8-10). Mature canine GM-CSF shares 49-57% amino acid sequence identity with mouse and rat GM-CSF and 69-72% with feline, human, and porcine GM-CSF. GM-CSF exerts its biological effects through a heterodimeric receptor complex composed of GM-CSF R $\alpha$ /CD116 and the signal transducing common  $\beta$  chain (CD131) which is also a component of the high-affinity receptors for IL-3 and IL-5 (11, 12). In addition, GM-CSF binds a naturally occurring soluble form of GM-CSF R $\alpha$  (13). The activity of GM-CSF is species specific between human and mouse, although human GM-CSF is active on canine cells (14, 15).

## References:

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