

## DESCRIPTION

<b>Species Reactivity</b>	Canine
<b>Specificity</b>	Detects canine GM-CSF in ELISAs and Western blots. In sandwich immunoassays, less than 0.2% cross-reactivity with recombinant human GM-CSF, recombinant mouse GM-CSF, recombinant feline GM-CSF, and recombinant canine IL-5 is observed and less than 0.7% cross-reactivity with recombinant porcine 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>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

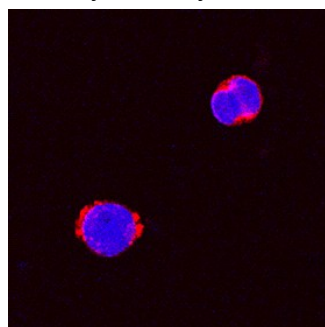
## APPLICATIONS

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<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	See Below
<b>Canine GM-CSF Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL	Canine GM-CSF Antibody (Catalog # <a href="#">MAB1546</a> )
<b>ELISA Detection Standard</b>	0.1-0.4 µg/mL	Canine GM-CSF Biotinylated Antibody (Catalog # <a href="#">BAF1546</a> ) Recombinant Canine GM-CSF (Catalog # <a href="#">1546-GM</a> )

## DATA

### Immunocytochemistry



**GM-CSF in Canine PBMCs.** GM-CSF was detected in immersion fixed canine peripheral blood mononuclear cells (PBMCs) stimulated with calcium ionomycin and PMA using Goat Anti-Canine GM-CSF Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF1546) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Streptavidin (red, Catalog # [NL999](#)) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

## 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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