

DESCRIPTION

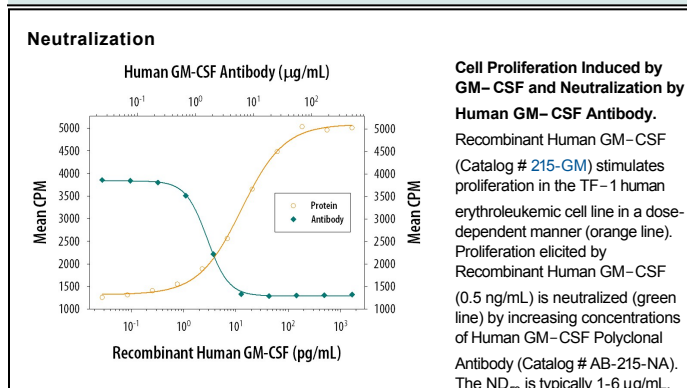
| | |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Species Reactivity | Human |
| Specificity | Detects human GM-CSF in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) G-CSF, rhIL-1 α , rhIL-1 β , rhIL-2, rhIL-3, rhIL-4, rhIL-6, rhTNF- α or rhTNF- β is observed. Neutralizes the biological activity of both rhGM-CSF and natural human GM-CSF. It will not neutralize the biological activity of recombinant mouse GM-CSF. |
| Source | Polyclonal Goat IgG |
| Purification | Protein A or G purified |
| Immunogen | <i>E. coli</i> -derived recombinant human GM-CSF Ala18-Glu144 Accession # P04141 |
| Endotoxin Level | <0.10 EU per 1 μ g of the antibody by the LAL method. |
| Formulation | Lyophilized from a 0.2 μ m 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 | 1 μ g/mL | Recombinant Human GM-CSF (Catalog # 215-GM) |
| Neutralization | | 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> 140 :323. The Neutralization Dose (ND ₅₀) is typically 1-6 μ g/mL in the presence of 0.5 ng/mL Recombinant Human GM-CSF. |

DATA



PREPARATION AND STORAGE

| | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reconstitution | Reconstitute at 1 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 | <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

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 α -helices (8–12). Mature human GM-CSF shares 63%–70% amino acid sequence identity with canine, feline, porcine, and rat GM-CSF and 54% with mouse GM-CSF. GM-CSF exerts its biological effects through a heterodimeric receptor complex composed of GM-CSF R α /CD116 and the signal transducing common β chain (CD131) which is also a component of the high-affinity receptors for IL-3 and IL-5 (13, 14). In addition, GM-CSF binds a naturally occurring soluble form of GM-CSF R α (15). Human GM-CSF is active on canine and feline cells but not on murine cells (16–18).

References:

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