Human G-CSF Antibody

Polyclonal Goat IgG

Catalog Number: AB-214-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human G-CSF in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant mouse G-CSF is observed.
Source	Polyclonal Goat IgG
Purification	Protein A or G purified
Immunogen	*E. coli*-derived recombinant human G-CSF Thr31-Pro204 Accession # NP_757373
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

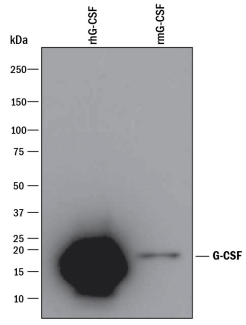
APPLICATIONS

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
Western Blot	1 µg/mL	See Below
Neutralization	Measured by its ability to neutralize both natural and recombinant human G-CSF-induced proliferation in the NFS60 mouse myeloid cell line [Shirafuji, N.et al. (1989) Exp. Hematol. **17**:116]. The Neutralization Dose (ND_{50}) is typically 0.1-0.3 µg/mL in the presence of 0.125 ng/mL Recombinant Human G-CSF.	

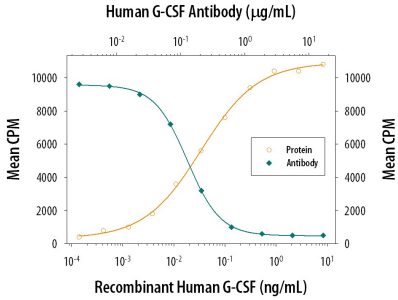
DATA

Western Blot



Detection of Recombinant Human and Mouse G-CSF by Western Blot. Western blot shows 25 ng of Recombinant Human G-CSF (Catalog # 214-CS) and Recombinant Mouse G-CSF (Catalog # 414-CS). PVDF Membrane was probed with 1 µg/mL of Goat Anti-Human G-CSF Polyclonal Antibody (Catalog # AB-214-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for G-CSF at approximately 15-20 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.

Neutralization



Cell Proliferation Induced by G-CSF and Neutralization by Human G-CSF Antibody. Recombinant Human G-CSF (Catalog # 214-CS) stimulates proliferation in the NFS60 mouse myeloid cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human G-CSF (0.125 ng/mL) is neutralized (green line) by increasing concentrations of Human G-CSF Polyclonal Antibody (Catalog # AB-214-NA). The ND_{50} is typically 0.1-0.3 µg/mL.

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	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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

G-CSF is a pleiotropic cytokine best known for its specific effects on the proliferation, differentiation, and activation of hematopoietic cells of the neutrophilic granulocyte lineage. It is produced mainly by monocytes and macrophages upon activation by endotoxin, TNF-α and IFN-γ. Other cell types including fibroblasts, endothelial cells, astrocytes and bone marrow stromal cells can also secrete G-CSF after LPS, IL-1 or TNF-α activation. In addition, various carcinoma cell lines and myeloblastic leukemia cells can express G-CSF constitutively.

In humans, two distinct cDNA clones for G-CSF, encoding 207 and 204 amino acid precursor proteins, have been isolated. Both proteins have a 30 amino acid signal peptide and have identical amino acid sequences except for a three amino acid insertion (deletion) at the 35th amino acid residue from the N-terminus of the mature protein. Human G-CSF is 73% identical at the amino acid level to murine G-CSF and the two proteins show species cross-reactivity.

In vitro, G-CSF stimulates growth, differentiation and functions of cells from the neutrophil lineage. It also has blast cell growth factor activity and can synergize with IL-3 to shorten the G_o period of early hematopoietic progenitors. Consistent with its *in vitro* functions, G-CSF has been found to play important roles in defense against infection, in inflammation and repair, and in the maintenance of steady state hematopoiesis.

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