

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human G-CSF by direct ELISA.
Source	Monoclonal Mouse IgG _{2B} Clone # 741265
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived human G-CSF Thr31-Leu204 Accession # P09919
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.	

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.

ELISA Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 G₀ 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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