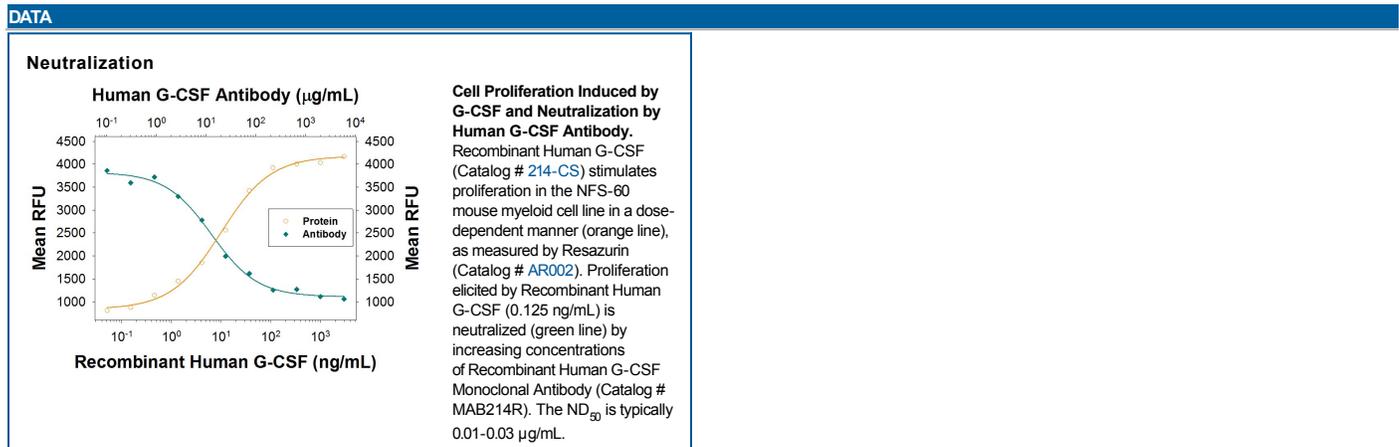


DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human G-CSF in direct ELISAs.
Source	Recombinant Monoclonal Mouse IgG ₁ Clone # 3316R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human G-CSF Ala30-Pro204 Accession # NP_757373
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. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS	
Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
Human G-CSF Sandwich Immunoassay	Reagent
ELISA Capture	2-8 µg/mL Human G-CSF Antibody (Catalog # MAB214R)
ELISA Detection	0.1-0.4 µg/mL Human G-CSF Biotinylated Antibody (Catalog # BAF214)
Standard	Recombinant Human G-CSF (Catalog # 214-CS)
Neutralization	Measured by its ability to neutralize G-CSF-induced proliferation in the NFS-60 mouse myeloid cell line. Shirafuji, N. <i>et al.</i> (1989) <i>Exp. Hematol.</i> 17:116. The Neutralization Dose (ND ₅₀) is typically 0.01-0.03 µg/mL in the presence of 0.125 ng/mL Recombinant Human G-CSF.



PREPARATION AND STORAGE	
Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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

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.