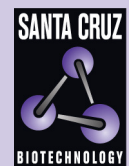


# G-CSF (FL-207): sc-13102



The Power to Question

## BACKGROUND

Granulocyte-colony stimulating factor, G-CSF, is a pleiotropic cytokine that influences differentiation, proliferation and activation of the neutrophilic granulocyte lineage. The murine G-CSF cDNA encodes a 208 amino acid precursor containing a 30 amino acid signal peptide that is proteolytically cleaved to form a 178 amino acid residue mature protein. Two G-CSF cDNAs which are identical except for a three amino acid deletion in the amino-terminus of one form of the protein have been isolated from human cells. Murine and human G-CSF share 73% sequence identity at the amino acid level. G-CSF signals through the G-CSF receptor, G-CSFR, a heavily glycosylated 812 amino acid polypeptide with a single transmembrane domain. Stimulation of the G-CSFR results in the activation of the Ras/MAPK pathway and phosphorylation of the adaptor protein Shc. Other studies indicate that the kinases Lyn and Syk and the transcription factor Stat3 are activated in response to G-CSF stimulation.

## REFERENCES

1. Nagata, S., et al. 1986. Molecular cloning and expression of cDNA for human granulocyte colony-stimulating factor. *Nature* 319: 415-418.
2. Tsuchiya, M., et al. 1986. Isolation and characterization of the cDNA for murine granulocyte colony-stimulating factor. *Proc. Natl. Acad. Sci. USA* 83: 7633-7637.
3. Abrams, J.S., et al. 1992. Strategies of anti-cytokine monoclonal antibody development: immunoassay of IL-10 and IL-5 in clinical samples. *Immunol. Rev.* 127: 5-24.

## CHROMOSOMAL LOCATION

Genetic locus: CSF3 (human) mapping to 17q21.1; Csf3 (mouse) mapping to 11 D.

## SOURCE

G-CSF (FL-207) is a rabbit polyclonal antibody raised against amino acids 1-207 representing full length G-CSF of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as HRP conjugate for Western blotting, sc-13102 HRP, 200 µg/1 ml.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

G-CSF (FL-207) is recommended for detection of G-CSF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for G-CSF siRNA (h): sc-39389, G-CSF siRNA (m): sc-39390, G-CSF shRNA Plasmid (h): sc-39389-SH, G-CSF shRNA Plasmid (m): sc-39390-SH, G-CSF shRNA (h) Lentiviral Particles: sc-39389-V and G-CSF shRNA (m) Lentiviral Particles: sc-39390-V.

Molecular Weight of G-CSF: 19 kDa.

Positive Controls: U-698-M whole cell lysate: sc-364799.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Ward, A.C., et al. 1998. The Src-like tyrosine kinase Hck is activated by granulocyte colony-stimulating factor (G-CSF) and docks to the activated G-CSF receptor. *Biochem. Biophys. Res. Commun.* 251: 117-123.
2. Chen, X., et al. 2005. Expression of granulocyte colony-stimulating factor is induced in injured rat carotid arteries and mediates vascular smooth muscle cell migration. *Am. J. Physiol., Cell Physiol.* 288: C81-C88.
3. Fievez, L., et al. 2007. Stat5 is an ambivalent regulator of neutrophil homeostasis. *PLoS ONE* 2: e727.
4. Fahmy, R.G. and Khachigian, L.M. 2007. Suppression of growth factor expression and human vascular smooth muscle cell growth by small interfering RNA targeting EGR-1. *J. Cell. Biochem.* 100: 1526-1535.
5. Ingersoll, M.A., et al. 2008. G-CSF induction early in uropathogenic *Escherichia coli* infection of the urinary tract modulates host immunity. *Cell. Microbiol.* 10: 2568-2578.

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Try **G-CSF (3D1): sc-53292**, our highly recommended monoclonal alternative to G-CSF (FL-207).