

G-CSF (K-15): sc-49679



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.
4. Abrams, J. 1995. Immunoenzymetric assay of mouse and human cytokines using NIP-labeled anti-cytokine antibodies. In Coligan J.E., et al, eds. *Current Protocols in Immunology*. New York. John Wiley and Sons, Unit 6.20.
5. Twardy, D.J., et al. 1996. Granulocyte colony-stimulating factor rapidly activates a distinct Stat-like protein in normal myeloid cells. *Blood* 86: 4409-4416.

CHROMOSOMAL LOCATION

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

SOURCE

G-CSF (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 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.

Blocking peptide available for competition studies, sc-49679 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

G-CSF (K-15) is recommended for detection of G-CSF long and short isoforms 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

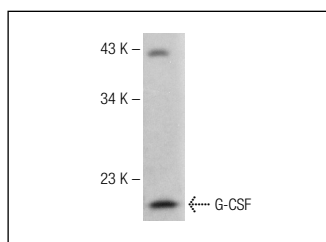
G-CSF (K-15) is also recommended for detection of G-CSF long and short isoforms in additional species, including canine, bovine, porcine and feline.

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.

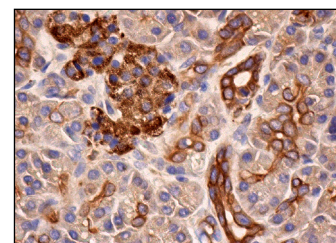
Molecular Weight of G-CSF: 19 kDa.

Positive Controls: U-698-M whole cell lysate: sc-364799 or human bladder extract: sc-363751.

DATA



G-CSF (K-15): sc-49679. Western blot analysis of G-CSF expression in U-698-M whole cell lysate.



G-CSF (K-15): sc-49679. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islet of Langerhans and glandular cells, and membrane staining of duct cells.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **G-CSF (3D1): sc-53292**, our highly recommended monoclonal alternative to G-CSF (K-15).