

# GM-CSF (H-3): sc-398649

## BACKGROUND

Colony stimulating factors (CSFs) were initially characterized by their ability to stimulate *in vitro* colony formation by hematopoietic progenitor cells in semisolid media. Several of these CSFs have been assigned an interleukin number, while three (GM-CSF, G-CSF and M-CSF) have retained their CSF designations. The human granulocyte-macrophage colony stimulating factor (GM-CSF) is a pleiotropic cytokine with a 17 amino acid signal peptide that is cleaved to produce the mature form of 127 amino acids. The mature murine GM-CSF protein is 124 amino acids and shares 60% homology with the human GM-CSF protein. GM-CSF is a glycoprotein that can stimulate the proliferation of hematopoietic cells including granulocytes and macrophages. It has been shown to promote the phosphorylation of cPLA<sub>2</sub> in human neutrophils. The phosphorylation of cPLA<sub>2</sub> may be accompanied by an increase in enzyme activity.

## REFERENCES

1. Suda, T., et al. 1990. Identification of a novel thymocyte growth-promoting factor derived from B cell lymphomas. *Cell. Immunol.* 129: 228-240.
2. Nozaki, S., et al. 1991. Augmentation of granulocyte/macrophage colony-stimulating factor expression by ultraviolet irradiation is mediated by interleukin 1 in Pam 212 keratinocytes. *J. Invest. Dermatol.* 97: 10-14.
3. Moore, M.A. 1991. The clinical use of colony stimulating factors. *Annu. Rev. Immunol.* 9: 159-191.
4. 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.
5. Freund, M. and Kleine, H.D. 1992. The role of GM-CSF in infection. *Infection* 20: S84-S92.
6. Costello, R.T. 1993. Therapeutic use of granulocyte-macrophage colony-stimulating factor (GM-CSF). A review of recent experience. *Acta Oncol.* 32: 403-408.
7. Sander, B., et al. 1993. Similar frequencies and blood and spleen. Cytokine detection by immunoassay and intracellular immunostaining. *J. Immunol. Methods* 166: 201-214.
8. Nahas, N., et al. 1996. Granulocyte-macrophage colony-stimulating factor (GM-CSF) promotes phosphorylation and an increase in the activity of cytosolic phospholipase A<sub>2</sub> in human neutrophils. *Biochem. J.* 313: 503-508.

## CHROMOSOMAL LOCATION

Genetic locus: Csf2 (mouse) mapping to 11 B1.3.

## SOURCE

GM-CSF (H-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 117-141 at the C-terminus of GM-CSF of mouse origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398649 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

GM-CSF (H-3) is recommended for detection of GM-CSF of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

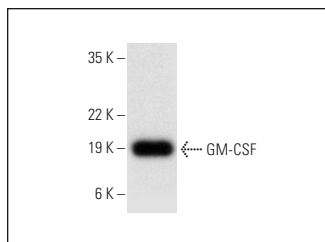
Suitable for use as control antibody for GM-CSF siRNA (m): sc-39392, GM-CSF shRNA Plasmid (m): sc-39392-SH and GM-CSF shRNA (m) Lentiviral Particles: sc-39392-V.

Molecular Weight of GM-CSF: 14 kDa.

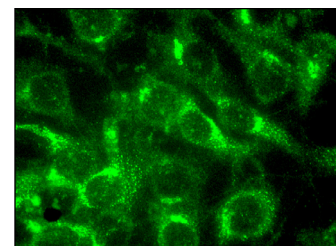
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



GM-CSF (H-3): sc-398649. Western blot analysis of mouse recombinant GM-CSF.



GM-CSF (H-3): sc-398649. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing Golgi apparatus and cytoplasmic vesicle localization.

## 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) for detailed protocols and support products.