

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 cPLA₂ in human neutrophils. The phosphorylation of cPLA₂ 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 Kleins, 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 A₂ 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).

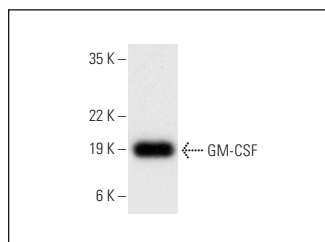
Suitable for use as control antibody for GM-CSF siRNA (m): sc-39392, GM-CSF shRNA Plasmid (m): sc-39392-SH and GM-CSF shRNA (m) Lentiviral Particles: sc-39392-V.

Molecular Weight of GM-CSF: 14 kDa.

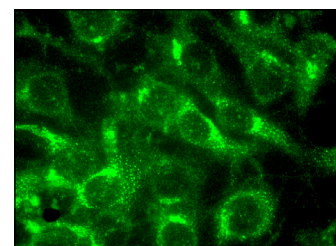
RECOMMENDED SUPPORT REAGENTS

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 for detailed protocols and support products.