

# GM-CSF (BVD2-21C11): sc-52530

## BACKGROUND

Colony stimulating factors (CSFs) were initially characterized by their ability to stimulate *in vitro* colony formation by hematopoietic progenitor cells in semi-solid 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 percent 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 was accompanied by an increase in the 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. Investig. 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. 1993. The role of GM-CSF in infection. *Infection* 2: S84-92.
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. 1994. Similar frequencies and blood and spleen. Cytokine detection by immunoassay and intracellular immunostaining. *J. Immunol. Methods* 166: 201-214.
8. Abrams, J. 1995. Immunoenzymetric assay of mouse and human cytokines using NIP-labeled anti-cytokine antibodies. In *Current Protocols in Immunology*. J. Coligamn, A. Kruisbeek, D. Margulies, E. Shevach, W. Strober, eds. John Wiley and Sons, New York. Unit 6.20.
9. 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 (human) mapping to 5q31.1; Csf2 (mouse) mapping to 11 B1.3.

## SOURCE

GM-CSF (BVD2-21C11) is a rat monoclonal antibody raised against recombinant full length GM-CSF of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as fluorescein conjugate for flow cytometry, sc-52530 FITC, 100 tests.

## APPLICATIONS

GM-CSF (BVD2-21C11) is recommended for detection of GM-CSF of human origin by flow cytometry (1 µg per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GM-CSF siRNA (h): sc-39391.

Molecular Weight of GM-CSF: 14 kDa.

## 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.