



Product Information

Macrophage-Colony Stimulating Factor (M-CSF)

Human, Recombinant
Expressed in *E. coli*

Product Number **M 6518**

Product Description

Four distinct colony-stimulating factors (CSFs) that promote survival, proliferation and differentiation of bone marrow precursor cells have been well characterized: granulocyte macrophage-CSF (GM-CSF), granulocyte-CSF (G-CSF), macrophage-CSF (M-CSF), and Interleukin-3 (IL-3, Multi-CSF).^{1,2} Both GM-CSF and IL-3 are multipotential growth factors, stimulating proliferation of progenitor cells from more than one hematopoietic lineage. In contrast, G-CSF and M-CSF are lineage restricted hematopoietic growth factors, stimulating final mitotic divisions and the terminal cellular maturation of the partially differentiated hematopoietic progenitors.

Macrophage CSF (M-CSF), also known as CSF-1, is produced by monocytes, fibroblasts, and endothelial cells. M-CSF stimulates the formation of macrophage colonies,³ enhances antibody-dependent, cell-mediated cytotoxicity by monocytes and macrophages,⁴ and inhibits bone resorption by osteoclasts.⁵ Natural human M-CSF is a dimeric glycoprotein of 70-90 kDa molecular weight, existing in multiple glycosylation forms.⁶ It binds to a 165 kDa glycoprotein of the receptor tyrosine kinase subclass III,⁷ a family that includes the receptors for platelet derived growth factor (PDGF) and stem cell factor (SCF).

Reagent

Lyophilized from a sterile filtered buffered solution.

Storage/Stability

The lyophilized protein is best stored at -20°C , but is stable for a few weeks at room temperature. After reconstitution, store at -20°C in working aliquots. Repeated freezing and thawing is not recommended.

Reconstitution

The contents of the vial may be reconstituted in water to a concentration of 0.1-0.5 mg/ml. This solution can then be diluted into other aqueous buffers and stored at $2-8^{\circ}\text{C}$ for up to one week. For extended storage, freeze in working aliquots. If aseptic technique is used, additional filtration should not be necessary and should be avoided due to possible adsorption onto the filter membrane.

Product Profile

The proliferative activity of human M-CSF is tested in culture using mouse M-NFS-60 cells.⁸ The ED_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Endotoxin tested.

References

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