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Product Information

Macrophage-Colony Stimulating Factor from mouse recombinant, expressed in *E. coli*

Catalog Number **M9170**
Storage Temperature –20 °C

Synonyms: M-CSF, Colony Stimulating Factor-1, CSF-1

Product Description
Macrophage-Colony Stimulating Factor (M-CSF) is a survival, growth, differentiation, and activating factor for macrophages and their progenitor cells.[1,2] M-CSF is synthesized as a membrane-bound propeptide. Subsequent to proteolytic processing, M-CSF can occur either as an integral cell surface protein or secreted protein variant.[3,4] M-CSF is produced from various cell types including fibroblasts, macrophages, and endothelial cells.

This recombinant, mouse M-CSF is a disulfide-linked homodimer of 18.2 kDa subunits containing 156 amino acid residues. There is 69.5% amino acid sequence homology between mouse and human MCSF. The highest degree of homology occurs within the N-terminal residues 1–149, and the lowest is found within amino acids 150–447, which are dispensable for bioactivity.[5] Human M-CSF is active on human and mouse cells, while mouse M-CSF is active on mouse cells.[4]

This product is lyophilized from a sterile-filtered buffered solution.

Purity: ≥98% (SDS-PAGE)

Endotoxin: ≤1 EU/μg of M-CSF

The biological activity of recombinant mouse M-CSF is measured by its ability to stimulate the proliferation of the mouse monocytic cell line M-NFS-60.[6] 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.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute the contents of the vial using water to a concentration of 0.1 mg/ml. This solution can be further diluted into other aqueous buffers and stored at 2–8 °C for up to 1 week or stored at –20 °C for up to 1 year.

Storage/Stability
Store the product at –20 °C. Under these conditions the product retains activity for at least 2 years.

Reconstituted M-CSF should be stored in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is not recommended.

References
1. Sherr, C. *et al*., Growth Factors, Differentiation Factors and Cytokines, Habenicht, A., ed., Springer-Verlag (Berlin: 1990).
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3. Wong, G.G. *et al*., Science, **235**, 1504 (1987).
4. Ladner, M.B. *et al*., Proc. Natl. Acad. Sci. USA, **85**, 6706 (1988).
5. Sherr, C. *et al*., Peptide Growth Factors and Their Receptors I, Sporn, M.B., et al., eds., Springer-Verlag (New York, NY: 1991) p. 671.
6. Halenbeck, R. *et al*., Biotechnology, **7**, 710 (1989).

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