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1. Description

Products

Mouse M-CSF, research grade.

Recombinant mouse macrophage colony-stimulating factor.

Content in µg	Order no.
10	130-094-129
25	130-101-706

Biological activity

The ED₅₀ is ≤10 ng/mL corresponding to an activity of ≥1×10⁵ U/mg.

▲ **Note:** The ED₅₀ is determined by proliferation assay using M-NFS-60 cells.

Primary structure

Two identical non-glycosylated covalently-linked polypeptide chains (155 amino acid residues each).

Molecular mass

36.1 kDa (dimer).

Source

Produced in *E. coli*.

Product format

Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer

Mannitol and trehalose.

Purity

>95% as determined by SDS-PAGE analysis.

Endotoxin level

Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage

Lyophilized Mouse M-CSF, research grade should be stored at -20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at -20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution

It is recommended to reconstitute lyophilized Mouse M-CSF, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Macrophage-colony stimulating factor (M-CSF), a four α-helical bundle cytokine, is a potent hematopoietic regulator. It is primarily produced by monocytes, granulocytes, endothelial cells,

and fibroblasts. The main function of M-CSF is the regulation of proliferation, differentiation, and survival of monocytes, macrophages and their hematopoietic progenitors. Furthermore, M-CSF has been shown to play an important role in immunological defense, bone metabolism, fertility, and pregnancy.

1.2 Applications

Mouse M-CSF can be used for a variety of applications, including:

- Generation of bone marrow-derived macrophages.
- Differentiation of osteoclasts.
- Proliferation and apoptosis assays.

Optimal concentration for a specific application should be determined by a dose-response experiment.

2. References

1. Tanne, A. *et al.* (2009) A murine DC-SIGN homologue contributes to early host defense against *Mycobacterium tuberculosis*. *J. Exp. Med.* 206 (10): 2205–2220.
2. Herold, J. *et al.* (2014) Tetanus toxoid-pulsed monocyte vaccination for augmentation of collateral vessel growth. *J Am Heart Assoc.* 3 (2): e000611.
3. Guery L. *et al.* (2014) Fine-tuning nucleophosmin in macrophage differentiation and activation. *Blood* 118: 4694–4704.

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