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1. Description

Products	<p>Mouse GM-CSF, research grade.</p> <p>Recombinant mouse granulocyte macrophage colony-stimulating factor.</p> <table border="1"> <thead> <tr> <th>Content in µg</th><th>Order no.</th></tr> </thead> <tbody> <tr> <td>10</td><td>130-094-043</td></tr> <tr> <td>25</td><td>130-095-746</td></tr> </tbody> </table>	Content in µg	Order no.	10	130-094-043	25	130-095-746
Content in µg	Order no.						
10	130-094-043						
25	130-095-746						
Biological activity	<p>The ED₅₀ is ≤0.1 ng/mL corresponding to an activity of ≥1×10⁷ U/mg.</p> <p>▲ Note: The ED₅₀ is determined by proliferation assay using mouse FDC-P1 cells provided by the German Resource Center for Biological Material (DSMZ) according to DeLamarter, J.F. <i>et al.</i>² The proliferation assay was calibrated with the Non WHO Reference Material for Mouse GM-CSF (NIBSC code 91/658) provided by the National Institute for Biological Standards and Control.</p>						
Primary structure	Single, non-glycosylated polypeptide chain (124 amino acid residues).						
Molecular mass	14.1 kDa.						
Source	Produced in <i>E. coli</i> .						
Product format	Lyophilized from a filtered (0.2 µm) buffer solution.						
Stabilizer	Mannitol and trehalose.						
Purity	>97% as determined by SDS-PAGE analysis.						
Endotoxin level	Low endotoxin (<0.1 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.						
Storage	Lyophilized Mouse GM-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 GM-CSF, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 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

GM-CSF is a hematopoietic growth factor, which is essential for proliferation and development of granulocyte and monocyte/macrophage progenitors. It also functions as a growth factor for erythroid and megakaryocytic precursor cells in conjunction with erythropoietin. GM-CSF is secreted by various cell types including T cells, macrophages, endothelial cells, and fibroblasts in response to inflammatory stimuli and cytokines. In addition, GM-CSF strongly chemoattracts neutrophils and eosinophils and enhances the effector functions of neutrophils and macrophages.

1.2 Applications

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

- Induction of colony formation of granulocyte/macrophage progenitors in semi-solid medium.
- *In vitro* generation of DCs from bone marrow or maturation of CD11c⁺ splenocytes.
- Generation of antigen-presenting (DC-like) cells in primary brain cell culture.

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

2. References

1. Ait-Oufella *et al.* (2010) B cell depletion reduces the development of atherosclerosis in mice. *J. Exp. Med.* 207: 1579–1587.
2. DeLamarter, J.F. *et al.* (1985) Recombinant murine GM-CSF from *E. coli* has biological activity and is neutralized by a specific antiserum. *EMBO J.* 4: 2575–2581.
3. Cantini, G. *et al.* (2012) Immunotherapy against the radial glia marker GLAST effectively triggers specific antitumor effectors without autoimmunity. *Oncoimmunology* 1 (6): 884–893.

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