Cytokines

**Mouse Recombinant GM-CSF**

Granulocyte-macrophage colony-stimulating factor

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>78017.1</td>
<td>20 µg</td>
</tr>
<tr>
<td>78017</td>
<td>100 µg</td>
</tr>
<tr>
<td>78017.2</td>
<td>1000 µg</td>
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</tbody>
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**Product Description**

Granulocyte-macrophage colony-stimulating factor (GM-CSF) promotes the proliferation and differentiation of hematopoietic progenitor cells and the generation of neutrophils, eosinophils, and macrophages. In synergy with other cytokines such as stem cell factor, IL-3, erythropoietin, and thrombopoietin, it also stimulates erythroid and megakaryocyte progenitors (Barreda et al.). GM-CSF was first purified from the culture of mouse lung tissue after lipopolysaccharide treatment. GM-CSF is produced by multiple cell types, including stromal cells, Paneth cells, macrophages, dendritic cells (DCs), endothelial cells, smooth muscle cells, fibroblasts, chondrocytes, and Th1 and Th17 cells (Francisco-Cruz et al.). The receptor for GM-CSF (GM-CSFR) is composed of two subunits: the cytokine-specific α subunit (GMRα; CD116) and the common subunit βc (CD131) shared with IL-3 and IL-5 receptors (Broughton et al.). GM-CSFR is expressed on hematopoietic cells, including progenitor cells and immune cells, as well as non-hematopoietic cells. GM-CSF is able to stimulate the development of DCs that ingest, process, and present antigens to the immune system (Francisco-Cruz et al.).

**Product Information**

**Alternative Names:** Colony-stimulating factor 2, CSF-2, MGI-1GM, Pluripoietic-alpha  
**Accession Number:** P01587  
**Amino Acid Sequence:** MAPTRSPITV TRPWK+VEAI KEALNLDDM PVTLNVEEV VSNEFSFKKL TCQOIRKIF EQGLRGNFTK LGKALNMTAS YYQTYCPPTP ETCETQTVTT YADFIDLKFLFLDIPFECK KPVQK  
**Predicted Molecular Mass:** 14.3 kDa  
**Species:** Mouse  
**Cross Reactivity:** Highly species-specific  
**Formulation:** Lyophilized from a sterile filtered aqueous solution containing acetic acid.  
**Source:** E. coli

**Specifications**

**Activity:** The specific activity is $\geq 2 \times 10^7$ units/mg (EC50 $\leq 0.05$ ng/mL) as determined by a cell proliferation assay using FDC-P1 cells.  
**Purity:** $\geq 95\%$  
**Endotoxin Level:** Measured by kinetic limulus amebocyte lysate (LAL) analysis and is $\leq 1$ EU/µg protein.

**Preparation and Storage**

**Storage:** Store at -20°C to -80°C.  
**Stability:** Stable as supplied for 12 months from date of receipt.  
**Reconstitution:** Centrifuge vial before opening. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.  
**NOTE:** If reconstituted product will be used immediately BSA is not required.
(A) The biological activity of Mouse Recombinant GM-CSF was tested by its ability to promote the proliferation of FDC-P1 cells. Cell proliferation was measured after 91 hours of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 3 - 5 pg/mL.

(B) 1 μg of Mouse Recombinant GM-CSF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant GM-CSF has a predicted molecular mass of 14.3 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

