

Recombinant Mouse GM-CSF (Animal-Free)

Catalog# / Size	713704 / 20 µg
Regulatory Status	RUO
Other Names	Granulocyte/macrophage-colony stimulating factor, CSF-α, Pluripoietin-α, Eosinophil colony stimulating factor (Eo-CSF), Burst promoting activity (BPA)
Description	GM-CSF plays a key role in signaling emergency hematopoiesis (predominantly myelopoiesis) in response to infection. This includes the development of granulocytes and macrophages in the bone marrow and their maintenance, survival, and functional activation at sites of injury or insult. The receptor for GM-CSF is a heterodimer that comprises a major binding subunit (GMRα) and a major signaling subunit (βc). The receptor subunits are always coexpressed on the surface of leukocytes, with βc being expressed at lower levels than GMRα. Certain nonhematopoietic cell types have also been reported to express the GM-CSF receptor and to respond to GM-CSF stimulation <i>in vitro</i> , although the <i>in vivo</i> significance of these observations remains uncertain.

Product Details

Source	Mouse GM-CSF, amino acids Ala18-Lys141 (Accession# NM_009969), was expressed in <i>E. coli</i> .
Molecular Mass	The 125 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 14.2 kD. The predicted N-terminal amino acid is Met.
Purity	>98%, as determined by Coomassie stained SDS-PAGE and HPLC analysis.
Formulation	Lyophilized, carrier-free.
Endotoxin Level	Less than 0.1 ng per µg of protein.
Storage & Handling	Unopened vial can be stored at -20°C or -70°C. For maximum results, quick spin vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. It is recommended to further dilute in a buffer, such as 5% Trehalose, and store working aliquots at -20°C to -80°C. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ ≤ 0.05 ng/ml, corresponding to a specific activity of ≥ 2.0 x 10 ⁷ units/mg as determined by the dose-dependent stimulation of the proliferation of murine FDC-P1 cells.
Application	Bioassay
Product Citations	1. He X, <i>et al.</i> 2020. J Immunother Cancer. 8:00. PubMed

Antigen Details

Structure	Cytokine
Distribution	T cells, monocytes, macrophages, fibroblasts, endothelial cells, mast cells.
Function	Synergistic with IL-1, IL-3, G-CSF; E21R competitive antagonist for receptor binding; stored in the extracellular matrix with heparan sulfate proteoglycans.
Interaction	Granulocyte/macrophage/erythroid/megakaryocytic progenitors, myeloblasts, monoblasts.
Ligand/Receptor	Heterodimer GM-CSFR α subunit (CDw116); β-subunit (CDw131) in common.
Bioactivity	Granulocyte-macrophage colony-stimulating factor (GM-CSF) and the related cytokines IL-3 and IL-5 regulate the production and functional activation of hematopoietic cells, with GM-CSF acting on monocytes, macrophages and all granulocytes.
Cell Type	Hematopoietic stem and progenitors, Embryonic Stem Cells
Biology Area	Cell Biology, Stem Cells

Molecular Family Growth Factors, Cytokines/Chemokines

Antigen References

1. Fitzgerald K, *et al.* Eds. 2001. The Cytokine FactsBook. Academic Press San Diego.
2. Demetri G, *et al.* 1991. *Blood* 78:2791.
3. Fan D, *et al.* 1991. *In vivo* 5:571.
4. Negrin R, *et al.* 1992. *Adv. Pharmacol.* 23:263.

Gene ID [12981](#)

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BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587