Cytokines

Mouse Recombinant GM-CSF (CHO-expressed)

Granulocyte-macrophage colony-stimulating factor

Catalog #	78206	10 µg
	78206.1	50 µg
	78206.2	1000 µg

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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 progenitor cells (Barreda et al.). 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, CSF, Csf2, Granulocyte-macrophage colony-stimulating factor
Accession Number:	Q14AD9
Amino Acid Sequence:	APTRSPITVT RPWKHVEAIK EALNLLDDMP VTLNEEVEVV SNEFSFKKLT CVQTRLKIFE QGLRGNFTKL KGALNMTASY YQTYCPPTPE TDCETQVTTY ADFIDSLKTF LTDIPFECKK PVQK
Predicted Molecular Mass:	14.2 kDa
Species:	Mouse
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO

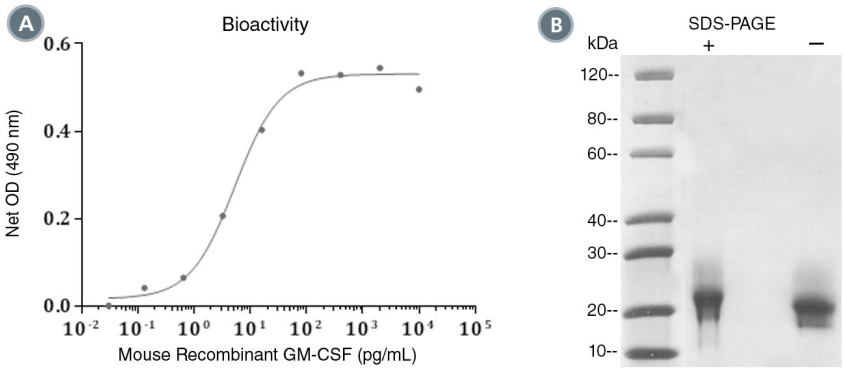
Specifications

Activity:	The specific activity is ≥ 2.0 x 10^7 units/mg (EC50 ≤ 50 pg/mL) as determined by a cell proliferation assay using FDC-P1 cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C for more than 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Mouse Recombinant GM-CSF (CHO-expressed) was tested by its ability to promote the proliferation of FDC-P1 cells. Cell proliferation was measured 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 example above is less than 50 pg/mL.
(B) 2 µg of Mouse Recombinant GM-CSF (CHO-expressed) was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant GM-CSF (CHO-expressed) has a predicted molecular mass of 14.2 kDa.

Related Products

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

References

Barreda DR et al. (2004) Regulation of myeloid development and function by colony stimulating factors. Dev Comp Immunol 28(5): 509–54.
Broughton SE et al. (2012) The GM-CSF/IL-3/IL-5 cytokine receptor family: from ligand recognition to initiation of signaling. Immunol Rev 250(1): 277–302.
Francisco-Cruz A et al. (2014) Granulocyte-macrophage colony-stimulating factor: not just another haematopoietic growth factor. Med Oncol 31(1): 774.