

Active GMP Recombinant Human CSF2 Protein

Cat. No. CSF2-149HG **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human CSF2 (Ala18-Glu144) with a 6His tag at the C-terminus was produced in HEK293 cell in an animal component free process under cGMP guidelines.
Species	Human
Source	HEK293
ProteinLength	18-144 a.a.
Description	Granulocyte-Macrophage Colony Stimulating Factor (GM-CSF) was initially characterized as a growth factor that can support the in vitro colony formation of granulocyte-macrophage progenitors. It is produced by a number of different cell types (including activated T cells, B cells, macrophages, mast cells, endothelial cells and fibroblasts) in response to cytokine of immune and inflammatory stimuli. Besides granulocyte-macrophage progenitors, GM-CSF is also a growth factor for erythroid, megakaryocyte and eosinophil progenitors. On mature hematopoietic, monocytes/macrophages and eosinophils. GM-CSF has a functional role on non-hematopoietic cells. It can induce human endothelial cells to migrate and proliferate. Additionally, GM-CSF can also stimulate the proliferation of a number of tumor cell lines, including osteogenic sarcoma, carcinoma and adenocarcinoma cell lines.
Form	Lyophilized.
Bio-activity	Measured in a cell proliferation assay using

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	TF-1 human erythroleukemic cells. The ED50 for this effect is typically 0.014-0.125 ng/ml.
AA Sequence	APARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVISEMFDLQEPTCLQT RLELYKQG LRGS�TKLKGPLTMMASHYKQHCPPTPETSCATQIITFESFKENLKDFL LVIPFDCWEPVQEVDH HHHHH
Residual Host Cell DNA Content_	<10pg/mg
Residual Host Cell Protein Content_	<1ug/mg
Endotoxin	<0.1EU/ug
Purity	Greater than 95% as determined by reducing SDS-PAGE.
Storage	Lyophilized and reconstituted protein should be stored at -80 centigrade. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.
Reconstitution	Always centrifuge tubes before opening. Do not mix by vortex or pipetting. It is not recommended to reconstitute to a concentration >100µg/ml. Dissolve the lyophilized protein in ddH2O. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.
Quality Statement	Our GMP proteins are produced according to relevant sections of the following documents: WHO TRS, No. 822, 1992 Annex 1, Good Manufacturing Practices for Biological Products; USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered Products and USP Chapter 92, Growth Factors and Cytokines Used in Cell Therapy Manufacturing.

Shipping

The product is shipped at ambient temperature. Upon receipt, store it immediately at the recommended temperature.

GENE INFORMATION

Gene Name	CSF2 colony stimulating factor 2 (granulocyte-macrophage) [Homo sapiens]
Official Symbol	CSF2
Synonyms	CSF2; granulocyte-macrophage colony-stimulating factor; GM CSF; GMCSF; granulocyte macrophage colony stimulating factor; molgramostin; sargramostim; CSF; colony-stimulating factor
Gene ID	1437
mRNA Refseq	NM_000758
Protein Refseq	NP_000749
MIM	138960
UniProt ID	P04141

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