

Active Recombinant Human Colony Stimulating Factor 2 (Granulocyte-Macrophage)

Cat. No. CSF2-646H Lot. No. (See product label)

SPECIFICATION

Product Overview	Granulocyte Macrophage Colony Stimulating Factor Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 127 amino acids and having a molecular mass of 14477 Dalton. GM-CSF is purified by proprietary chromatographic techniques.
Species	Human
Source	Human
Description	Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) was first characterized as a growth factor that supports the in-vitro colony formation of granulocytes-macrophages progenitor cells (1, 2). It is a pleiotropic cytokine and a member of a family of endogenous cytokines of the hematopoietic system. GM-CSF is produced as a response to immune or inflammatory stimuli by activated cells of the hematopoietic system such as T cells, B cells, macrophages, mast cells and also fibroblasts and alveolar epithelial cells.
Form	GM-CSF was lyophilized after extensive dialysis against 2mM sodium phosphate buffer pH= 7.4 μ 0.1.
Purity	Greater than 98.0% as determined by 1. Analysis by RP-HPLC. 2. Analysis by SDS-PAGE.
Bio-activity	The ED50 as determined by the dose-dependant stimulation of the proliferation of

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human TF-1 cells (human erythroleukemic indicator cell line) is < 0.1 ng/ml, corresponding to a Specific Activity of 11,100,000 IU/mg.

Physical Appearance Sterile Filtered White lyophilized (freeze-dried) powder.

Solubility It is recommended to reconstitute the lyophilized Granulocyte Macrophage Colony Stimulating Factor in sterile 18M μ -cm H₂O not less than 100g/ml, which can then be further diluted to other aqueous solutions.

Amino acid sequence The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Pro-Ala-Arg-Ser. N-terminal methionine has been completely removed enzymatically.

Protein content GM-CSF quantitation was carried out by two independent methods 1. UV spectroscopy at 280 nm using the absorbency value of 0.963 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GEN computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a standard solution of GM-CSF as a Reference Standard.

Storage Lyophilized Granulocyte Macrophage Colony Stimulating Factor although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution GMCSF should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name CSF2 colony stimulating factor 2 (granulocyte-macrophage) [Homo sapiens]

Official Symbol CSF2

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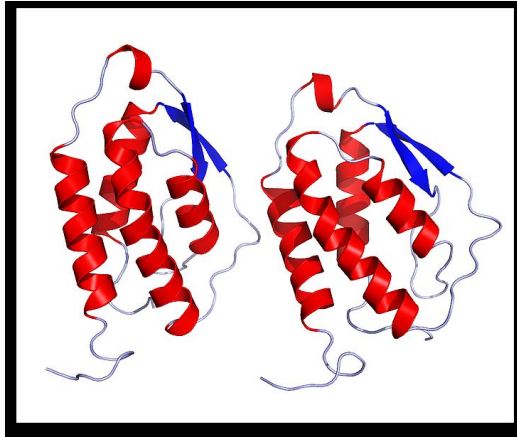
Synonyms	CSF2; granulocyte-macrophage colony-stimulating factor; CSF; molgramostin; sargramostim; OTTHUMP00000065962; colony-stimulating factor; granulocyte-macrophage colony stimulating factor
Gene ID	1437
mRNA Refseq	NM_000758
Protein Refseq	NP_000749
MIM	138960
UniProt ID	P04141
Chromosome Location	5q31.1
Pathway	Amoebiasis; Calcineurin-regulated NFAT-dependent transcription in lymphocytes; Calcium signaling in the CD4+ TCR pathway; Cytokine Signaling in Immune system; Cytokine-cytokine receptor interaction; Cytokines and Inflammatory Response; Fc epsilon RI signaling pathway; Glucocorticoid receptor regulatory network; HTLV-I infection; Hematopoietic cell lineage; Immune System; Interleukin receptor SHC signaling; Interleukin-2 signaling; Interleukin-3, 5 and GM-CSF signaling; Jak-STAT signaling pathway; Natural killer cell mediated cytotoxicity; Regulation of retinoblastoma protein; Rheumatoid arthritis; T cell receptor signaling pathway
Function	cytokine activity; granulocyte macrophage colony-stimulating factor receptor binding; growth factor activity; protein binding

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