

## Recombinant Human Colony Stimulating Factor 2(Granulocyte-macrophage)

Cat. No. CSF2-86H Lot. No. (See product label)

### SPECIFICATION

<b>Product Overview</b>	Recombinant Human Granulocyte Macrophage Colony Stimulating Factor produced in Yeast is a single, glycosylated, polypeptide chain containing 127 amino acids and having a molecular mass of 26-32 kDa. rhGMCSF differs from the natural human GM-CSF by a substitution of leucine at position 23 (R to L), and the carbohydrate moiety may be different from the native protein. GM-CSF is purified by proprietary chromatographic techniques.
<b>Species</b>	Human
<b>Source</b>	P.pastoris
<b>Description</b>	GMCSF is a cytokine that controls the production, differentiation, and function of granulocytes and macrophages. The active form of the protein is found extracellularly as a homodimer. This gene has been localized to a cluster of related genes at chromosome region 5q31, which is known to be associated with interstitial deletions in the 5q- syndrome and acute myelogenous leukemia. Other genes in the cluster include those encoding interleukins 4, 5, and 13. GM-CSF stimulates the growth and differentiation of hematopoietic precursor cells from various lineages, including granulocytes, macrophages, eosinophils and erythrocytes.
<b>Amino acid sequence</b>	The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Pro-Ala-Arg-Ser.

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<b>Physical Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Purity</b>	Greater than 97.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
<b>Formulation</b>	The protein was lyophilized from a concentrated (1 mg/ml) solution containing 10 mM phosphate buffer pH 7.0, 40 mg mannitol and 10 mg sucrose.
<b>Solubility</b>	It is recommended to reconstitute the lyophilized Granulocyte Macrophage Colony Stimulating Factor in sterile 18 MΩ-cm H <sub>2</sub> O not less than 100 g/ml, which can then be further diluted to other aqueous solutions.
<b>Specific Activity</b>	The ED <sub>50</sub> as determined by the dose-dependant stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line) is < 0.183 ng/ml, corresponding to a Specific Activity of 5 x 10 <sup>6</sup> IU/mg.
<b>Stability</b>	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.
<b>GENE INFORMATION</b>	
<b>Synonyms</b>	CSF; GM-CSF; GMCSF; MGC131935; MGC138897; CSF2; CSF-2; MGI-1GM; Pluripoietin-alpha; Molgramostin; Sargramostim; molgramostin; sargramostim; colony stimulating factor 2; Colony-stimulating factor; granulocyte-macrophage colony stimulating factor; colony stimulating factor 2 (granulocyte-macrophage)
<b>Gene Name</b>	<a href="#">CSF2 colony stimulating factor 2 (granulocyte-macrophage) [ Homo sapiens ]</a>

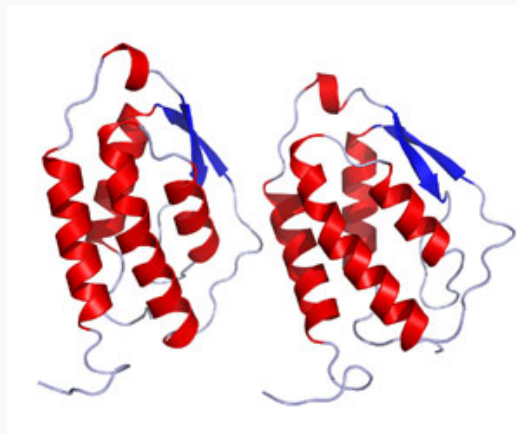
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<b>Gene ID</b>	1437
<b>mRNA Refseq</b>	NM_000758
<b>Protein Refseq</b>	NP_000749
<b>MIM</b>	138960
<b>UniProt ID</b>	P04141
<b>Chromosome Location</b>	5q31.1
<b>Pathway</b>	Cytokine-cytokine receptor interaction; Fc epsilon RI signaling pathway; Hematopoietic cell lineage; Jak-STAT signaling pathway; Natural killer cell mediated cytotoxicity; T cell receptor signaling pathway
<b>Function</b>	cytokine activity; granulocyte macrophage colony-stimulating factor receptor binding; growth factor activity; protein binding

**PDB rendering based on 2gmf**



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