

Recombinant Human Colony Stimulating Factor 2(Granulocyte-macrophage)

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

SPECIFICATION

Product Overview	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.
Species	Human
Source	P.pastoris
Description	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.
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.

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Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 97.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Formulation	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.
Solubility	It is recommended to reconstitute the lyophilized Granulocyte Macrophage Colony Stimulating Factor in sterile 18 MΩ-cm H ₂ O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.
Specific Activity	The ED ₅₀ 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 ⁶ IU/mg.
Stability	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	
Synonyms	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)
Gene Name	CSF2 colony stimulating factor 2 (granulocyte-macrophage) [Homo sapiens]

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Gene ID	1437
mRNA Refseq	NM_000758
Protein Refseq	NP_000749
MIM	138960
UniProt ID	P04141
Chromosome Location	5q31.1
Pathway	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
Function	cytokine activity; granulocyte macrophage colony-stimulating factor receptor binding; growth factor activity; protein binding
PDB rendering based on 2gmf	