

Granulocyte Macrophage Colony Stimulating Factor

Human, Recombinant (rHuGM-CSF)

Expressed in *E. coli*

Cat. No. CRP0808

Lot. No. (See product label)

PRODUCT INFORMATION

Description: GM-CSF was initially characterized as a growth factor that can support the in vitro colony formation of granulocyte-macrophage progenitors. 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.

Amino-Acid Sequence: 123aa,(The sequence of the first fifteen N-terminal amino acids was determined and was found to be Met-Ala-Pro-Ala-Arg-Ser-Pro-Ser-Pro-Ser-Thr-Gln-Pro-Trp-Glu-His.)

M. W. : 14,000 Da

Recombinant: Expressed in *E. coli*

Purity: >95% as determined by SDS-PAGE and SEC-HPLC.

Formulation: Lyophilized after extensive dialysis against 2mM sodium phosphate buffer pH=7.4+/-0.1.

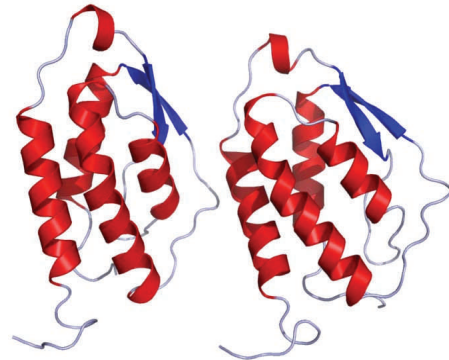
Specific Activity: The ED50 as determined by the dose-dependant stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line) is less than 0.1 ng/ml, corresponding to a Specific Activity of 1.0×10^7 IU/ mg.

Endotoxin: Less than 0.03ng/μg (0.03IEU/μg) determined by LAL test..

Reconstitution: It is recommended to reconstitute the lyophilized rHuGM-CSF in sterile 18MΩ-cm H₂O not less than 100μg/ml, which can then be further diluted to other aqueous solutions

Storage: Lyophilized rHuGM-CSF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rHuGM-CSF 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). Aliquot to avoid repeated freeze-thaw cycles.

FOR RESEARCH USE ONLY



PDB rendering based on 2gmf

GENE INFORMATION

Gene Name: [CSF2](#)

Gene Alias: GMCSF, MGC131935, MGC138897

Gene Type: protein coding

mRNA Refseq: [NM_000758](#)

Protein Refseq: [NP_000749.2](#)

MIM: [MIM:138960](#)

GeneID: [1437](#)

Chromosome Location: 5q31.1

Pathway: Cytokine-cytokine receptor interaction; Fc epsilon RI signaling pathway; Jak-STAT signaling pathway ; Natural killer cell mediated cytotoxicity ; T cell receptor signaling pathway

Function: cytokine activity; granulocyte macrophage colony-stimulating factor; receptor binding

REFERENCES

- 1.Tanimoto A, et al. Monocyte chemoattractant protein-1 expression is enhanced by granulocyte-macrophage colony-stimulating factor via Jak2-Stat5 signaling and inhibited by atorvastatin in human monocytic U937 cells. *J Bio Chem.* 2008 Feb 22; 283(8):4643-4651
- 2.Krubasik D, et al. Granulocyte-macrophage colony stimulating factor induces endothelial capillary formation through induction of membrane-type 1 matrix metalloproteinase expression in vitro. *Int. J. Cancer.* 2008 Mar 15; 122(6):1261-1272
- 3.Weissen-Plenz G, et al. Granulocyte macrophage colony-stimulating factor deficiency affects vascular elastin production and integrity of elastic lamellae. *J Vasc. Res.* 2008; 45(2):103-110

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