



Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF) Human, *E. coli* Recombinant Protein

Product Data Sheet

Cat. No.:	A32210005	A32210020	A32211000
Size:	5 µg	20 µg	1 mg

Description

Our bioactive *Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF) Human, E. coli Recombinant Protein* is a single, non-glycosylated, polypeptide chain that contains 127 amino acids and has a molecular mass of 14477 Dalton. GM-CSF Human is purified by proprietary chromatographic techniques.

Summary

Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF) is a monomeric glycoprotein that functions as a cytokine. It is a white blood cell growth factor. GM-CSF is a hematopoietic growth and differentiation factor that stimulates the development of neutrophils and macrophages, and promotes the proliferation and development of early erythroid megakaryocytic and eosinophilic progenitor cells. It also stimulates growth in some epithelial cells and osteoclasts. GM-CSF is produced by a variety of cell types (monocytes, endothelial cells, T-cells, fibroblasts, mitogen-stimulated B-cells, and LPS-stimulated macrophages).

Other Names

Human GM-CSF, Colony-Stimulating Factor, CSF-2, CSF2, MGI-1GM, Pluripoietin- α , molgramostin, sargramostim, Csfgm, Gm-CSf, GMCSF, MGI-IGM, UniprotKB# P04141

Source

E. coli

Formulation

Sterile filtered white lyophilized (freeze-dried) powder. GM-CSF was lyophilized after extensive dialysis against 2mM sodium phosphate buffer pH= 7.4 \pm 0.1.

Purity

Greater than 98.0% as determined by analysis by RP-HPLC and SDS-PAGE.

Biological Activity

The ED₅₀ as determined by the dose-dependent stimulation of the proliferation of 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.

update.: 2024.02

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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% (1 mg/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.

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.

Reconstitution

It is recommended to reconstitute the lyophilized GM-CSF in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Shipping

Ships at ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Expiration

Lyophilized GM-CSF, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution, GM-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](#)). **Please prevent freeze-thaw cycles.**

Usage

This product is intended for **Laboratory Research Use Only**. Not for use in diagnostic or therapeutic procedures. This product may not be used as a pharmaceutical or veterinary drug, agricultural product, or food additive.

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