

Granulocyte Macrophage-Colony Stimulating Factor Human Recombinant (GMCSF)

Product Data Sheet

Cat. No.:	RP1762210002	RP1762210010	RP1762211000
	2 µg	10 µg	1 mg

Introduction:

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.

Description:

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.

Source:

Escherichia coli.

Physical Appearance:

Sterile filtered White lyophilized powder.

Formulation:

GM-CSF was lyophilized after extensive dialysis against 2 mM sodium phosphate buffer pH= 7.4±0.1.

Solubility:

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

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.

Purity:

Greater than 98.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE

Biological Activity:

The ED50 as determined by the dose-dependant 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 11.1x10⁶ IU/mg.

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% (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.

Usage:

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