



Granulocyte Macrophage Colony Stimulating Factor, rat recombinant (rrGM-CSF)

Catalog No: 87388
Lot No: XXXXX
Source: *E. coli*
Synonyms: CSF-2, MGI-1GM, GM-CSF, Pluripoietin-alpha, Molgramostin, Sargramostim

Background

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 rat recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 128 amino acids and having a molecular mass of 14590.65 Dalton. GM-CSF is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

GM-CSF rat was lyophilized with no additives.

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 95.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Ala-Pro-Thr-Arg.

Activity

The ED₅₀ range = 0.001 - 0.01 ng/ml corresponding to a specific activity of 100,000,000 - 1,000,000,000 IU/mg, determined by the dose dependent proliferation of murine MC/9 cells.

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