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Recombinant Human GM-CSF

Description: Recombinant human Granulocyte Macrophage Colony Stimulating Factor (GM-CSF), a 14,5 kDa protein consisting of 127 amino acid residues (Ala18-Glu144), is a potent species specific stimulator of bone marrow cells and several other cell types.

GM-CSF was initially characterized as a growth factor that can support the *in vitro* colony formation of granulocyte-macrophage progenitors. It is produced by a number of different cell types (including activated T cells, B cells, macrophages, mast cells, endothelial cells and fibroblasts) in response to cytokine or immune and inflammatory stimuli. Besides granulocyte-macrophage progenitors, GM-CSF is also a growth factor for erythroid, megakaryocyte and eosinophil progenitors. On mature hematopoietic cells, GM-CSF is a survival factor for and activates the effector functions of granulocytes, monocytes/macrophages and eosinophils. GM-CSF has also been reported to have 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. GM-CSF is species specific and human GM-CSF has no biological effects on mouse cells. GM-CSF exerts its biological effects through binding to specific cell surface receptors. The high affinity receptors required for human GM-CSF signal transduction have been shown to be heterodimers consisting of a GM-CSF-specific α chain and a common β chain that is shared by the high-affinity receptors for IL-3 and IL-5.

Source:	E. coli
Molecular Weight:	14.5 kDa
Specific activity:	1×10^7 units/mg
Purity:	> 98% by RP-HPLC, Anion-exchange FPLC, Silverstain
Endotoxin level:	< 0.1 ng per μg (IEU/ μg) of rh GM-CSF
Stabilizer:	none
Buffer:	2mM sodium phosphate buffer, pH 7.4
Formulation:	lyophilized (freeze-dried)

Biological Activity: The ED_{50} as determined by the dose-dependent stimulation of the proliferation of human TF-1 cells is ≤ 0.1 ng/ml.

Reconstitution: The lyophilized rh GM-CSF is soluble in water and most aqueous buffers. The lyophilized powder can be reconstituted in water to a concentration of 0.1 mg/ml. This solution can be diluted into other buffered solutions or stored at -20°C for future use.

Stability: The lyophilized powder although stable at room temperature for 3 weeks, is best stored desiccated at -20°C . Reconstituted GM-CSF should be stored in working aliquots at -20°C . For long term storage it is recommended to add a carrier protein (0.1% HAS or BSA). **Avoid repeated freeze-thaw cycles.**

Usage: Human GM-CSF is offered for research use. Not for drug use. **Not for human use.**

Catalogue number: 200-004

Size: 2 μg

Range: 0.05-1.0 ng/ml

****please note: always centrifuge product before opening Vial.****