

Human GM-CSF

Human Granulocyte Macrophage Colony Stimulating Factor, recombinant

Synonyms: CSF-2, MGI-1GM, Pluripoietin-alpha

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order #	Lot #	Expiry Date
10 µg	4535.950.010		
25 µg	4535.950.025		
50 µg	4535.950.050		
100 µg	4535.950.100		
200 µg	4535.950.200		
500 µg	4535.950.500		
1 mg	4535.950.199		

Please enquire for bulk quantities and other vial sizes

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.

- **Biological Activity** $\geq 1 \times 10^6$ units/mg
- **Source** *E. Coli*
- **Purity** ≥ 98 % (SDS-PAGE, silver stained)
- **Endotoxin level** < 0.1 ng per µg of GM-CSF
- **Stabilizer** None
- **Buffer** PBS (pH 7.2)*
- **Physical state** Sterile filtered, lyophilized

Biological Activity

The ED₅₀ of ≤ 0.1 ng/ml was determined by the dose dependent proliferation of TF-1 cells. It corresponds to a specific activity of $\geq 1 \times 10^6$ units/mg.

Reconstitution

We recommend a quick spin followed by reconstitution in sterile Water at a concentration of 0.1 mg/ml, which can then be further diluted into other aqueous or buffered solutions.

Stability

The lyophilized protein is stable for at least 1 year from date of receipt if stored at -20°C to -80°C. Reconstituted hGM-CSF can be stored at 4°C if entire vial will be used within 1-2 weeks or in working aliquots at -20°C. we recommend the addition of a carrier protein (e.g. HSA for long term storage and especially for high dilutions.

Please avoid repeated freeze-thaw cycles.

*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

ORDERING
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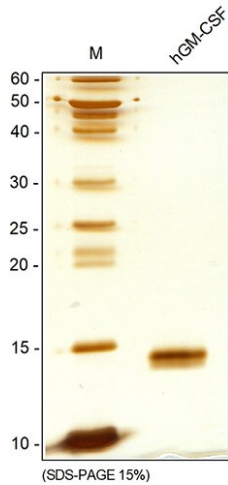
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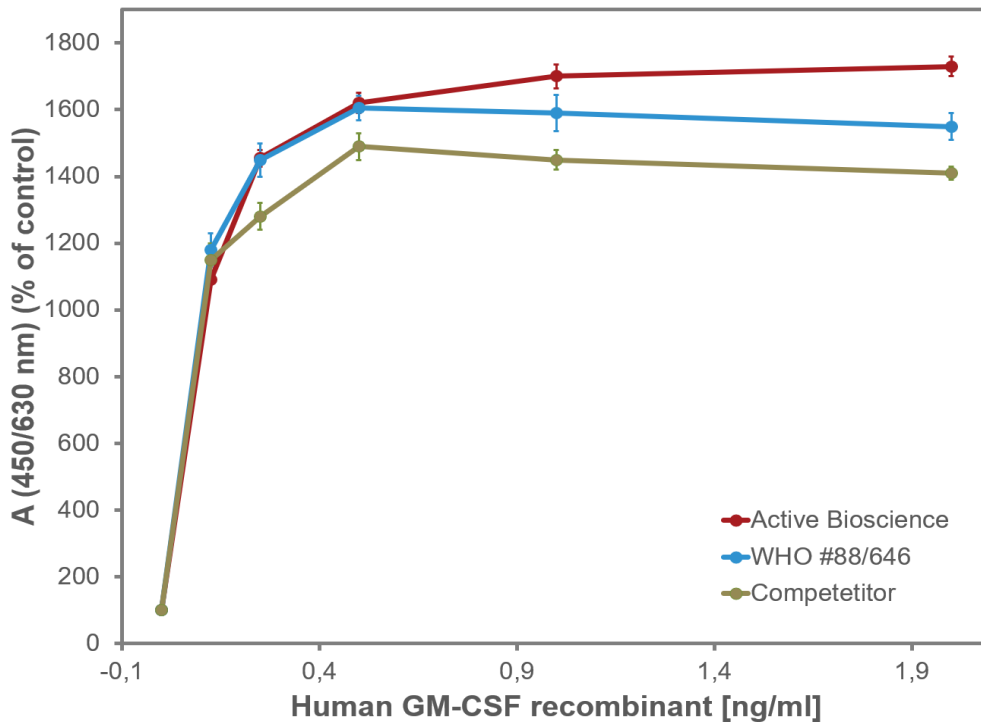
Amino Acid Sequence

APARSPSPST QPWEHVNAIQ EARRLLNLSR DTAAEMNETV EVISEMFDLQ EPTCLQTRLE LYKQGLRGSL
TKLKGPLTMM ASHYKQHCPP TPETSCATQI ITFESFKENL KDFLLVIPFD CWEPVQE

Purity and Biological Activity



SDS-PAGE analysis of recombinant human GM-CSF. Sample was loaded in 15% SDS-polyacrylamide gel under reducing condition and stained with Silver stain.



Dose-dependent stimulation of cell proliferation in TF-1 cells by recombinant human GM-CSF and the WHO standard 88/646. Values are the means (\pm SD) of triplicate determinations and expressed as percentage of control.

Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

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