

Recombinant Human Granulocyte Colony Stimulating Factor

#R00008

Size: 10 µg/100 µg/500 µg

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Granulocyte colony stimulating factor (G-CSF) is a pleiotropic cytokine. It is mainly produced by monocytes and macrophages upon activation by endotoxin, TNF- α and IFN- γ . Besides, many other cell types can secrete this protein after LPS, IL-1 or TNF- α activation, which are fibroblasts, endothelial cells, astrocytes and bone marrow stromal cells. Various carcinoma cell lines and myeloblastic leukemia cells can express G-CSF constitutively. G-CSF is a cytokine that acts in hematopoiesis by controlling the production, differentiation, and function of 2 related white cell populations of the blood, the granulocytes and the monocytes-macrophages. In addition, it may function in some adhesion or recognition events at the cell surface. In humans, two distinct cDNA clones for G-CSF, encoding 207 and 204 amino acid (a.a.) precursor proteins, have been isolated. Both proteins have a 30 a.a. signal peptide and have identical amino acid

sequences except for a three a.a. insertion (deletion) at the 35th a.a. residue from the N-terminus of the mature protein. Human G-CSF is 73 % identical at the amino acid level to murine G-CSF and the two proteins show species cross-reactivity.

AA Sequence

TPLGPASSLPQSFLKCLEQVRKIQQGDGAALQEKLCA
TYKLCHPEELVLLGHSLGIPWAPLSSCPSQALQLAGC
LSQLHSGFLFYQGILLQALEGISPELGPTLDTLQLDVAD
FATTIWQQMEELGMAPALQPTQGAMPAFASAFQRRR
GGVLVASHLQSFLEVSYRVLRHLAQP

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further

dilutions should be made in appropriate buffered solutions.

Product Specification

Synonyms	CSF-3, MGI-1G, GM-CSF beta, Pluripoietin
Accession	P09919
GeneID	1440
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 18.7 kDa, a single non-glycosylated polypeptide chain containing 174 amino acids.
Purity	> 98 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ as determined by a cell proliferation assay using murine NFS-60 cells is less than 0.1 ng/ml, corresponding to a

	specific activity of $> 1.0 \times 10^7$ IU/mg.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 μ m filtered concentrated solution in 10mM sodium acetate buffer, containing 5 % trehalose, pH 4.0.
Endotoxin	Less than 1 EU/ μ g of rHuG-CSF as determined by LAL method.