



Technical Data Sheet

Recombinant Human Granulocyte Colony Stimulating Factor (rHu G-CSF)

Human Granulocyte Colony Stimulating Factor

G-CSF is a pleiotropic cytokine best known for its specific effects on the proliferation, differentiation, and activation of hematopoietic cells of the neutrophilic granulocyte lineage. It is produced mainly by monocytes and macrophages upon activation by endotoxin, TNF- α and IFN- γ . Other cell types including fibroblasts, endothelial cells, astrocytes and bone marrow stromal cells can also secrete G-CSF after LPS, IL-1 or TNF- α activation. In addition, various carcinoma cell lines and myeloblastic leukemia cells can express G-CSF constitutively.

In humans, two distinct cDNA clones for G-CSF, encoding 207 and 204 amino acid precursor proteins, have been isolated. Both proteins have a 30 amino acid signal peptide and have identical amino acid sequences except for a three amino acid insertion (deletion) at the 35th amino acid 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.

Catalog Number:	RC213-13
Source:	<i>Escherichia coli</i> .
Molecular Weight:	Approximately 18.7 kDa, a single non-glycosylated polypeptide chain containing 174 amino acids.
Quantity:	2 μ g/10 μ g/1mg
Purity:	>98% by SDS-PAGE and HPLC analyses.
Biological Activity:	Fully biologically active when compared to standard. The ED ₅₀ as calculated by the dose-dependant proliferation of murine NFS-60 indicator cells (measured by ³ H-thymidine uptake) is less than 0.1 ng/ml, corresponding to a Specific Activity of 1 x 10 ⁸ IU/mg.
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation:	Lyophilized from a 0.2 μ m filtered concentrated (1mg/ml) solution in 10mM sodium acetate buffer pH 4.0.
AA Sequence:	TPLGPASSLP QSFLKCLEQ VRKIQGDGAA LQEKLCATYK LCHPEELVLL GHSLGIPWAP LSSCPSQALQ LAGCLSQLHS GLFLYQGLLQ ALEGISPELG PTLDTLQLDV ADFATTIWQQ MEELGMAPAL QPTQGAMPAF ASAFQRRAGG VLVASHLQSF LEVSYRVL RH LAQP
Endotoxin:	Less than 1EU/ μ g of rHuG-CSF as determined by LAL method.
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



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	be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.
Storage:	This lyophilized preparation is stable at $2-8^{\circ}\text{C}$, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at $2-8^{\circ}\text{C}$. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C . Avoid repeated freeze/thaw cycles.
Usage:	This material is offered by Bio Basic Inc. for research, laboratory or further evaluation purposes. NOT FOR HUMAN USE.