

## GFH72

## Recombinant Human G-CSF

### Description

Granulocyte-Colony Stimulating Factor (G-CSF) is a cytokine that functions as a potent inducer of neutrophilic granulocyte proliferation, terminal differentiation, and activation. G-CSF synthesis occurs in monocyte, macrophage, epithelial, endothelial, and fibroblast cells after activation by bacterial endotoxins, Tumor Necrosis Factor  $\alpha$  (TNF- $\alpha$ ), Interleukin-1 (IL-1), or Interleukin-17 (IL-17). The functional activity of G-CSF is mediated through the granulocyte colony-stimulating factor receptor (G-CSF-R) to activate JAK/STAT and MAPK signal transduction pathways. G-CSF also promotes neurogenesis and inhibits neuronal apoptosis. Human and mouse G-CSF proteins are cross-reactive.

<b>Length</b>	175 aa
<b>Molecular Weight</b>	18.8 kDa
<b>Source</b>	E. coli
<b>Accession Number</b>	P09919
<b>Purity</b>	$\geq 95\%$ determined by reducing and non-reducing SDS-PAGE

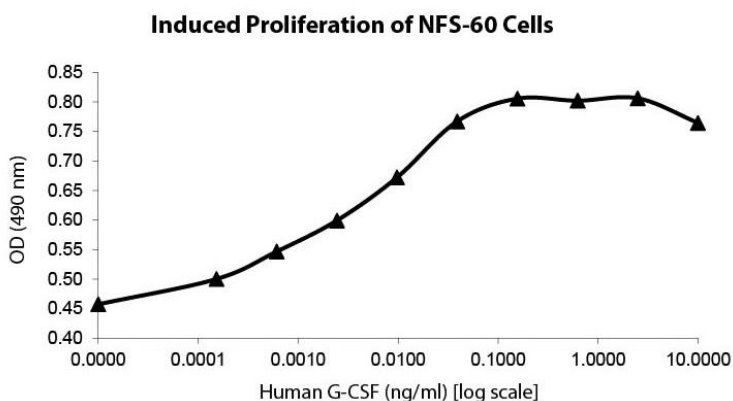
### Specifications

<b>Alternative Names</b>	Granulocyte Colony Stimulating Factor, granulocyte colony-stimulating factor, CSF-3, CSF3, MGI-1G, GM-CSF $\beta$ , GM-CSF $\beta$ , pluripoiectin, colony stimulating factor 3 (granulocyte), lenograstim, filgrastim, GCSF2, MGC45931, C17orf33, chromosome 17 open reading frame 33, CSF3OS, MGI-1G
<b>Biological Activity</b>	Human G-CSF is fully biologically active when compared to standard. The activity is determined by the proliferation of NFS-60 cells and it is typically less than 50 pg/ml. This corresponds to an expected specific activity of $2 \times 10^7$ units/mg.
<b>Endotoxin Level</b>	$\leq 1.00$ EU/ $\mu$ g as measured by kinetic LAL
<b>Formulation</b>	Lyophilized from a sterile (0.2 micron) filtered aqueous solution containing 0.1% Trifluoroacetic Acid (TFA)
<b>AA Sequence</b>	MTPLGPASSL PQSFLKCLE QVRKIQGDGA ALQEKLCATY KLCHPEELVL LGHSLGIPWA PLSSCPSQAL QLAGCLSQLH SGLFLYQGLL QALEGISPEL GPTLDTLQLD VADFATTIQQ QMEELGMAPA LQPTQGAMPA FASAFQRRAG GVLVASHLQS FLEVSRYVLR HLAQP

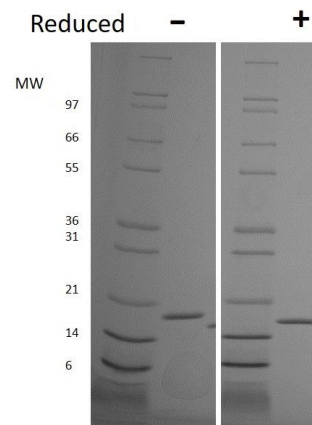
### Preparation and Storage

<b>Reconstitution</b>	Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile water at 0.1 mg/ml, which can be further diluted into other aqueous solutions. If a precipitate is observed, centrifuge the solution thoroughly and use only the soluble fraction (removing it from the precipitate). A 10% overfill has been added to compensate for any loss of protein in the precipitate
<b>Stability and Storage</b>	12 months from date of receipt when stored at $-20^{\circ}\text{C}$ to $-80^{\circ}\text{C}$ as supplied. 1 month when stored at $4^{\circ}\text{C}$ after reconstituting as directed. 3 months when stored at $-20^{\circ}\text{C}$ to $-80^{\circ}\text{C}$ after reconstituting as directed.

### Data



Induced proliferation of NFS-60 cells assay for Human G-CSF. Cell proliferation was measured to calculate the ED50, which is as expected less than 50 pg/ml.



Non-reducing (-) and reducing (+) conditions in a 4 - 20% Tris-Glycine gel stained with Coomassie Blue. 1  $\mu$ g of protein was loaded in each lane. Human G-CSF has a predicted Mw of 18.8 kDa.