

G-CSF Protein, Human

Cat. No.:	HY-P70422
Synonyms:	Granulocyte Colony-Stimulating Factor; G-CSF; Pluripoietin; Filgrastim; Lenograstim; CSF3; C17orf33; GCSF
Species:	Human
Source:	E. coli
Accession:	Q8N4W3 (T27-P200)/P09919-2 (T31-P204)
Gene ID:	1440
Molecular Weight:	Approximately 16-18 kDa

PROPERTIES

AA Sequence	<p>T P L G P A S S L P Q S F L L K C L E Q V R K I Q G D G A A L Q E K L C A T Y K</p> <p>L C H P E E L V L L G H S L G I P W A P L S S C P S Q A L Q L A G C L S Q L H S</p> <p>G L F L Y Q G L L Q A L E G I S P E L G P T L D T L Q L D V A D F A T T I W Q Q</p> <p>M E E L G M A P A L Q P T Q G A M P A F A S A F Q R R A G G V L V A S H L Q S F</p> <p>L E V S Y R V L R H L A Q P</p>
Biological Activity	The ED ₅₀ is <0.1 ng/mL as measured by M-NFS-60 cells, corresponding to a specific activity of >1.0 × 10 ⁷ units/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 10 mM HAc-NaAc, 150 mM NaCl, 0.004% Tween 80, 5% Mannitol, pH 4.0 or 20 mM PB, 150 mM NaCl, pH 7.4 or 25 mM Tris, pH 8.0 or 10mM HAc-NaAc, 150 mM NaCl, pH 4.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	G-CSF is a glycoprotein, secreted by the cells of the immune system, fibroblasts, and endothelium and functions to stimulate granulopoiesis, the innate immunity, and the differentiation of neural progenitor cells. G-CSF conveys neuroprotection to central neurons upon increases in phosphorylation of PI3K/Akt pathway, and regulates epithelial to mesenchymal transition in cancer ^[1] . G-CSF acts via a specific cognate receptor (G-CSFR) that belongs to the class I cytokine
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receptor superfamily. G-CSF is well known as a hematopoietic cytokine that stimulates the proliferation, differentiation, and function of myeloid progenitors and mobilization of hematopoietic stem and progenitor cells^[2]. G-CSF has the potential to inhibit the progression of atherosclerosis in animal models^[3].

REFERENCES

- [1]. Aliper AM, et al. A role for G-CSF and GM-CSF in nonmyeloid cancers. *Cancer Med.* 2014 Aug;3(4):737-46.
- [2]. Wright CR, et al. Granulocyte Colony-Stimulating Factor and Its Potential Application for Skeletal Muscle Repair and Regeneration. *Mediators Inflamm.* 2017;2017:7517350.
- [3]. Liu M, et al. The Effect of Granulocyte Colony-Stimulating Factor on the Progression of Atherosclerosis in Animal Models: A Meta-Analysis. *Biomed Res Int.* 2017;2017:6705363.
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Caution: Product has not been fully validated for medical applications. For research use only.

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