

Recombinant Human Pegylated Granulocyte Colony Stimulating Factor

Cat. No. CSF3-02H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human G-CSF produced in <i>E. coli</i> is a single, non-glycosylated, polypeptide chain containing 175 amino acids and having a molecular mass of 18,800 Dalton. PEG-GCSF is manufactured by attaching a 20,000 Dalton methoxypolyethylene glycol propionaldehyde (mPEG-ALD) to the N-terminal amino acid of G-CSF having a total molecular mass of 38800 Dalton.
Species	Human
Source	E.coli
Description	A glycoprotein of MW 20 kDa containing internal disulfide bonds. It induces the survival, proliferation, and differentiation of neutrophilic granulocyte precursor cells and functionally activates mature blood neutrophils. Among the family of colony-stimulating factors, G-CSF is the most potent inducer of terminal differentiation to granulocytes and macrophages of leukemic myeloid cell lines. The synthesis of G-CSF can be induced by bacterial endotoxins, TNF, IL-1 and GM-CSF. Prostaglandin E2 inhibits the synthesis of G-CSF. In epithelial, endothelial, and fibroblastic cells secretion of G-CSF is induced by IL-17.
Purity	>95% as determined by HPLC, FPLC and SDS-PAGE Silver Stained gel.
Formulation	The protein was extensively dialyzed against 10mM sodium acetate buffer PH= 4 and 5% mannitol was added.

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Specific Activity	PEG-GCSF is fully biologically active when compared to standard. The ED50, calculated by the dose-dependant proliferation of murine NFS-60 indicator cells is less than 0.1 ng/ml, corresponding to a Specific Activity of 1.0×10^7 IU/mg.
Endotoxin	Less than 0.1 ng/g (1IEU/g) of PEG-GCSF.
Reconstitution	It is recommended to reconstitute the lyophilized PEG-GCSF in sterile 18MΩ-cm H ₂ O not less than 100g/ml, which can then be further diluted to other aqueous solutions.
Storage	PEG-GCSF although stable at 15°C for 1 week, should be stored between 2°C -8°C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Aliquot to avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name	CSF3
Synonyms	G-CSF; GCSF; MGC45931; colony stimulating factor 3 (granulocyte); colony stimulating factor 3; granulocyte colony stimulating factor; pluripoietin; filgrastim; lenograstim; Granulocyte colony-stimulating factor precursor; CSF3
Gene ID	1440
mRNA Refseq	NM_000759
Protein Refseq	NP_000750
MIM	138970
UniProt ID	P09919

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Chromosome Location	17q11.2-q12
Pathway	Cytokine-cytokine receptor interaction; Hematopoietic cell lineage; Jak-STAT signaling pathway
Function	cytokine activity; enzyme binding; granulocyte colony-stimulating factor receptor binding; interleukin-6 receptor binding.
Crystal structure of 3 molecules of human G-CSF. FromPDB1rhg	