

Pegylated Granulocyte-Colony Stimulating Factor

Human, Recombinant (rHuPEG-GCSF)

Expressed in *E. coli*

Cat. No. CRP0809

Lot. No. (See product label)

PRODUCT INFORMATION

Description: Recombinant Human G-CSF produced in *E. coli* 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.

Amino-Acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Met-Thr-Pro-Leu-Gly.

M. W. : 38,800 Da

Recombinant: Expressed in *E. coli*

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.

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/μg (1IEU/μg) of PEG-GCSF.

Reconstitution: It is recommended to reconstitute the lyophilized PEG-GCSF in sterile 18MΩ-cm H₂O not less than 100μg/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.

FOR RESEARCH USE ONLY



Crystal structure of 3 molecules of human G-CSF. From [PDB 1rhg](#)

GENE INFORMATION

Gene Name: [CSF3](#)

Gene Alias: G-CSF; GCSF

Gene Type: protein coding

mRNA Refseq: [NM_000759](#)

Protein Refseq: [NP_000750](#)

MIM: [138970](#)

GeneID: [1440](#)

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.

REFERENCES

- 1.Nagata S, Tsuchiya M, Asano S, et al. Molecular cloning and expression of cDNA for human granulocyte colony-stimulating factor. *Nature*. 1986, 319 (6052): 415–418
- 2.Elizabeth Finkel, *Stem Cells*, 2005, ABC Books,
3. Duarte RF, et al. The synergy between stem cell factor (SCF) and granulocyte colony-stimulating factor (G-CSF): molecular basis and clinical relevance. *Leuk. Lymphoma*. 2003, 43 (6): 1179–1187.

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