

# Granulocyte-Colony Stimulating Factor

Human, Recombinant (rHuG-CSF)

Expressed in *E. coli*

Cat. No. CRP0802

Lot. No. (See product label)

## PRODUCT INFORMATION

**Description:** Granulocyte colony-stimulating factor (G-CSF or GCSF) is a colony-stimulating factor hormone. It is a glycoprotein, growth factor or cytokine produced by a number of different tissues to stimulate the bone marrow to produce granulocytes and stem cells. G-CSF then stimulates the bone marrow to release them into the blood. It also stimulates the survival, proliferation, differentiation, and function of neutrophil precursors and mature neutrophils. G-CSF is also known as colony-stimulating factor 3 (CSF 3).

**Amino-Acid Sequence:** 175 aa (The sequence of the first fifteen N-terminal amino acids was determined and was found to be Met-Thr-Pro-Leu-Gly-Pro-Ala-Ser-Ser-Leu-Pro-Gln-Ser-Phe-Leu-leu.) non-glycosylated

**M. W. :** 18,800 Da

**Recombinant:** Expressed in *E. coli*

**Purity:** >95% as determined by SDS-PAGE and SEC-HPLC.

**Isoelectric Point:** the main zone between 5.8~6.6 analysis by IEF.

**UV scan:** the maximal absorption wave is 278+/- 3nm.

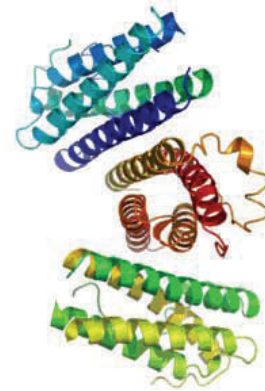
**Formulation:** Lyophilized after extensive dialysis against 10mM sodium acetate buffer pH=4.

**Specific Activity:** 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  $6.0 \times 10^7$  IU/ mg.

**Endotoxin:** Less than 0.03ng/μg (0.03IEU/μg) determined by LAL test.

**Reconstitution:** It is recommended to reconstitute the lyophilized rHuG-CSF in sterile 18MΩ-cm H<sub>2</sub>O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

**Storage:** Lyophilized rHuG-CSF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rHuG-CSF should be stored at 4°C between 2-7 days and for future use below -18°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.



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

## GENE INFORMATION

**Gene Name:** [CSF3](#)

**Gene Alias:** G-CSF; GCSF; MGC45931

**Gene Type:** protein coding

**mRNA Refseq:** [NM\\_172219.1](#)

**Protein Refseq:** [NP\\_757373.1](#)

**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, 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, ISBN 0 7333 1248 9

3.Root RK, Dale DC. Granulocyte colony-stimulating factor and granulocyte-macrophage colony-stimulating factor: comparisons and potential for use in the treatment of infections in nonneutropenic patients. J Infect Dis. 1999 Mar;179 Suppl 2:S342-352

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