Product Specification Sheet

Recombinant G-CSF (G-CSF/GCSF/CSF-3) Protein

□ **Cat.** GCSF15-R	Recombinant (E.coli) purified Mouse GCSF protein	**SIZE**: 10 ug
□ **Cat.** GCSF16-R	Recombinant (E.coli) purified Human GCSF protein	**SIZE**: 10 ug

GRANULOCYTE COLONY-STIMULATING FACTOR (GCSF) or COLONY-STIMULATING FACTOR 3 (CSF3), is a glycoprotein that is produced and secreted by macrophages stimulated with endotoxin. It is also 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 pulse them out of the marrow into the blood. It also stimulates the survival, proliferation, differentiation, and function of neutrophil precursors and mature neutrophils. The natural human GCSF exists in two forms, a 174- and 180-amino-acid-long protein (precursor 204 aa, mature peptide 175-aa; chromosome 17q11.2-q12, ~19.6 kda). The more-abundant and more-active 174-amino acid form has been used in the development of pharmaceutical products (Available under the names Neupogen or Granulokine (Amgen/Roche) and Granocyte (Rhone-Poulenc). GCSF is used to treat neutropenia (a disorder characterized by an extremely low number of neutrophils in blood). The PEG (polyethylene glycol) form has a much longer half-life, reducing the necessity of daily injections. G-CSF stimulates the production of white blood cells. Recombinant G-CSF is used in certain cancer patients to accelerate recovery from neutropenia after chemotherapy, allowing higher-intensity treatment regimens. G-CSF is also used to increase the number of hematopoietic stem cells in the blood before collection by leukapheresis for use in hematopoietic stem cell transplantation.

GCSF mRNA is alternatively spliced to produce 2 isoforms. Isoform 1 (mature peptide 175 aa or long form) and isoform 2 (short form, missing 66-68 aa). Both forms have authentic GCSF activity.

Source of Antigen and Antibodies

#GCSF15-R, Mouse GCSF

Granulocyte Colony Stimulating Factor Mouse Recombinant produced in E.coli is a single, non-glycosylated, polypeptide chain containing 179 amino acids and having a molecular mass of ~20 KD (**#GCSF15-R**). G-CSF is purified by proprietary chromatographic techniques (>95%). The sequence of the first five N-terminal amino acids was determined and was found to be Met-Val-Pro-Leu-Val.

#GCSF16-R, Human GCSF

Granulocyte Colony Stimulating Factor Mouse Recombinant produced in E.coli is a single, non-glycosylated, polypeptide chain containing 174 amino acids and having a molecular mass of ~20 KD (#GCSF16-R-10). G-CSF is purified by proprietary chromatographic techniques (>95%). The sequence of the first five N-terminal amino acids was determined and was found to be : Thr-Pro-Leu-Gly-Pro.

Formulation:
GCSF was lyophilized with no additives. It is recommended to reconstitute the lyophilized Colony Stimulating Factor in distilled water or a desired buffer at concn no less than 100µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Stability:

Lyophilized product stable at room temperature for 3 weeks, should be stored desiccated below -180C. Upon reconstitution G-CSF should be stored at -250oC or below. Please avoid freeze-thaw cycles.

Biological Activity:

Mouse GCSF: The ED50 range=0.01-0.03 ng/mL, determined by the dose-dependant proliferation of mouse NFS-60cells. The optimal concentration for each specific application should be determined by an initial dose-response assay.

Human GCSF: The ED50 calculated by the dose-dependant proliferation of murine NFS-60 indicator cells (measured by 3H-thymidine uptake) is less then 0.1 ng/ml, corresponding to a Specific Activity of 1.27 x 108 IU/mg.

General References: Nagata S (1986) Nature 319, 415-418; Develin JJ (1987) J. Leukocyte Biol. 41, 302-306; Souza LM (1986) Science 232, 61-66;

*This product is for in vitro research use only.

Related material available from ADI

Mouse and Human GSCF ELISA Kits
Anti-Mouse and Human GCSF and GCSFR
Recombinant mouse and human GCSF and GCSFR

GSCF15-16-R-10 141029P

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