# Recombinant Human G-CSF/CSF3 Protein (Fc Tag)

Catalog Number: PKSH031938



Note: Centrifuge before opening to ensure complete recovery of vial contents.

#### **Description**

Synonyms Granulocyte Colony-Stimulating Factor;G-

CSF;Pluripoietin;Filgrastim;Lenograstim;CSF3;C17orf33;GCSF

Species Human

Expression Host HEK293 Cells
Sequence Ala 30-Pro 204
Accession NP\_757373.1
Calculated Molecular Weight 45.4 kDa
Observed molecular weight 48 kDa
Tag N-hFc

**Bioactivity** Measured in a cell proliferation assay using a murine myeloblastic cell line,

NFS-60. The ED50 for this effect is typically 0.2-0.8 ng/ml.

## **Properties**

**Purity** > 97 % as determined by reducing SDS-PAGE.

**Endotoxin** < 1.0 EU per μg of the protein as determined by the LAL method.

**Storage** Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to

-80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots

of reconstituted samples are stable at < -20°C for 3 months.

**Shipping** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation** Lyophilized from sterile 100mM Glycine, 10mM NaCl, 50mM Tris, pH 7.5

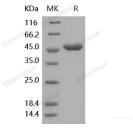
Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as

protectants before lyophilization.

Please refer to the specific buffer information in the printed manual.

**Reconstitution** Please refer to the printed manual for detailed information.

#### Data



> 97 % as determined by reducing SDS-PAGE.

### **Background**

Granulocyte-colony stimulating factor (G-CSF) is a growth factor and an essential cytokine belonging to the CSF family of hormone-like glycoproteins. It is produced by numerous cell types including immune and endothelial cells. Recent animal studies have also revealed that G-CSF activates multiple signaling pathways, such as Akt and also the Janus family kinase-2 and signal transducer and activation of transcription-3 (Jak2-STAT3) pathway, thereby promoting survival, proliferation, differentiation and mobilisation of haematopoietic stem and progenitor cells. G-CSF is a cytokine that have

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been demonstrated to improve cardiac function and perfusion in myocardial infarction. And it was initially evaluated as a stem cell mobilizer and erythropoietin as a cytoprotective agent. G-CSF prevents left ventricular remodeling after myocardial infarction by decreasing cardiomyocyte death and by increasing the number of blood vessels, suggesting the importance of direct actions of G-CSF on the myocardium rather than through mobilization and differentiation of stem cells. Accordingly, recombinant human (rh)G-CSF has been extensively used in clinical haematology and oncology to enable bone marrow transplantation or to treat chemotherapy-associated neutropenia. In preclinical study, G-CSF improved cardiac function and perfusion by angiomyogenesis and protection of cardiomyocytes in myocardial infarction.

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