RP01722

Leader in Biomolecular Solutions for Life Science

www.abclonal.com

Recombinant Human CSF-3/G-CSF Protein

Catalog No.: RP01722 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
HEK293 cells	1440	P09919-2

Tags
C-6His

Synonyms
GCSF; CSF3OS; C17orf33;CSF3

Product Information

Source
HEK293 cells

Purification
> 97% by SDS-PAGE.

Endotoxin
< 0.001EU/μg

Formulation
Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

www.abclonal.com

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. G-CSF binding to its receptor G-CSF-R which belongs to the cytokine receptor type I family depends on the interaction of alpha-helical motifs of the former and two fibronectin type III as well as an immunoglobulin-like domain of the latter. 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 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.

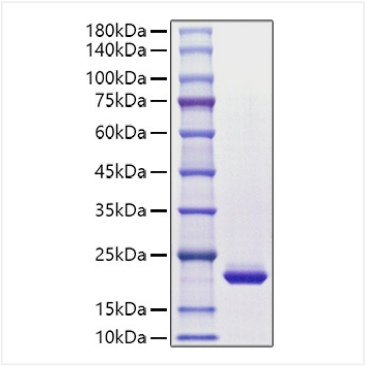
Basic Information

Description
Recombinant Human CSF-3/G-CSF Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Met1-Pro204) of human G-CSF/CSF3 (Accession #NP_757373.1) fused with and a 6×His tag at the C-terminus.

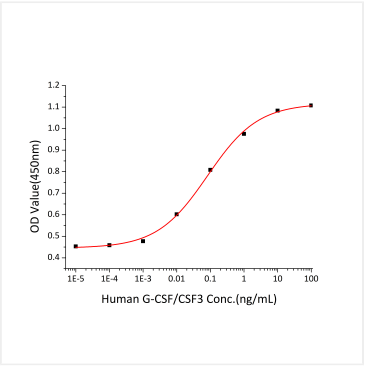
Bio-Activity
1.Measured in a cell proliferation assay using NFS-60 mouse myelogenous leukemia lymphoblast cells. The ED₅₀ for this effect is 41-164 pg/mL.

Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human G-CSF/CSF3 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 20 kDa.



Recombinant Human G-CSF/CSF3 stimulates cell proliferation of the NFS-60 mouse myelogenous leukemia lymphoblast cells. The ED_{50} for this effect is 41-164 pg/mL.