

Mouse G-CSF Protein (HPLC-verified)



Sino Biological
Biological Solution Specialist

Catalog Number: HPLC-57336-MNAH

General Information

Gene Name Synonym:

Csfg; G-CSF; MGI-IG

Protein Construction:

A DNA sequence encoding the mouse CSF3 (NP_034101.1) (Met1-Ala208) was expressed and purified.

Source: Mouse

Expression Host: Human Cells

QC Testing

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

Endotoxin:

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

Predicted N terminal: Val 31

Molecular Mass:

The recombinant mouse CSF3 consists of 178 amino acids and predicts a molecular mass of 19 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

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.

References

- 1.Takano H, *et al.* (2007) G-CSF therapy for acute myocardial infarction. *Trends Pharmacol Sci.* 28(10): 512-7.
- 2.Klocke R, *et al.* (2008) Granulocyte colony-stimulating factor (G-CSF) for cardio- and cerebrovascular regenerative applications. *Curr Med Chem.* 15(10): 968-77.
- 3.Kang HJ, *et al.* (2008) G-CSF- and erythropoietin-based cell therapy: a promising strategy for angiomyogenesis in myocardial infarction. *Expert Rev Cardiovasc Ther.* 6(5): 703-13.

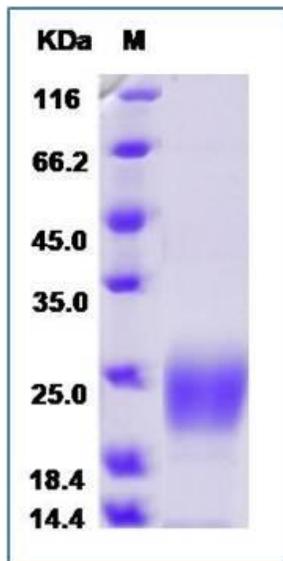
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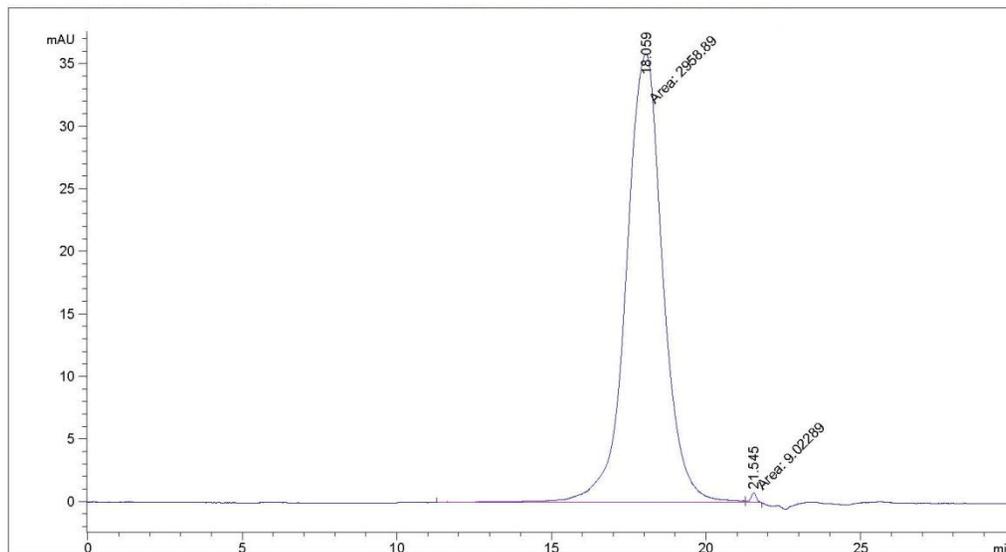
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SDS-PAGE:



98.9% as determined by SDS-PAGE

SEC-HPLC:



99.7% as determined by SEC-HPLC Analysis