

Recombinant Human Granulocyte Colony-Stimulating Factor/G-CSF Protein

Cat.NO.: TP05234

3th Edition

Synonyms:C17orf33;C17orf33OS;CSF3OS;G-CSF;GCSF

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.

Form:PBS

Molecular Weight:18.7 kDa

Sequences:Ala30-Pro204

Purity:> 95% by HPLC

Concentration:

Endotoxin Level:<1.0 EU per 1 ug of protein (determined by LAL method)

Storage:Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.