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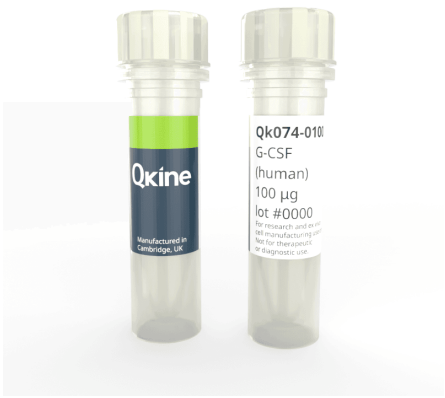
Recombinant human G-CSF protein (Qk074)



Type: Stem cells

Available for purchase: Unit Size (µg): 25, 50, 100, 500, 1000

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Product Information

Granulocyte colony-stimulating factor (G-CSF) is a member of the hematopoietic growth factor family which plays a crucial role in the proliferation, differentiation, and maturation of committed progenitor cells to granulocytes, such as neutrophils.

Qkine G-CSF is a highly pure, bioactive protein produced in an animal origin-free expression system composed of 174 amino acids with a molecular weight of 18.6 kDa. Human and murine G-CSF are 73% identical at the amino acid level and show species cross-reactivity. Human G-CSF is carrier-free, tag-free, and non-glycosylated to ensure a pure and homogenous production of high-quality neutrophils and other relevant cell cultures with exceptional lot-to-lot consistency.

This protein is also available as GMP compliant Cell Therapy Grade, to enquire email support@qkine.com.

Alternative protein names

Granulocyte colony-stimulating factor, G-CSF, GCSF, GM-CSF beta, Colony-stimulating factor 3, CSF3, CSF-3, CSF3OS, Pluripoietin, Filgratin, Lenogratin, C17orf33, chromosome 17 open reading frame 33, MGC45931, GCSF, G CSF, Qk74

Molecular weight

18.6 kDa (monomer)

Protein Uniprot number

High purity human G-CSF protein (Uniprot: P09919-2)

Species reactivity

- human
- species similarity:
- mouse - 75% (cross-reacts)
- rat - 73%
- bovine - 81%
- porcine - 79%

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from Tris, mannitol

Reconstitution instructions

- Resuspend in sterile-filtered water at >50 µg/ml

Featured applications

- Generation of iPSC-derived neutrophils
- Induction of cardiomyocytes from iPSCs
- Mobilization of bone marrow cells for wound healing applications
- Regulation of ZO-1 expression in brain microvascular endothelial cells
- Maintenance of isolated neutrophils
- Proliferation of neutrophils

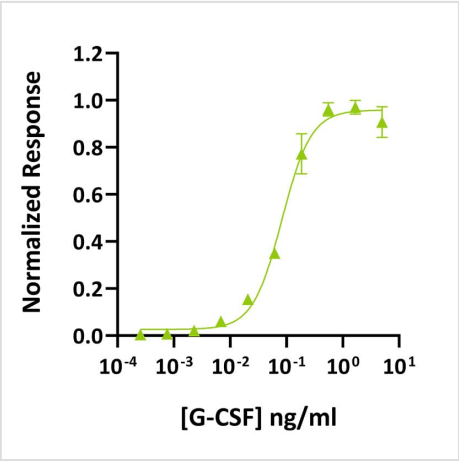
Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

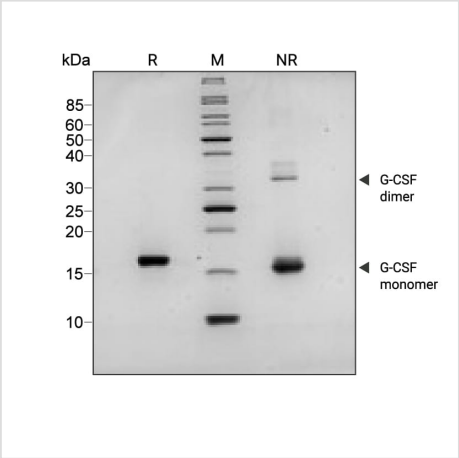
Bioactivity

G-CSF activity was determined using the Promega CellTiter-Glo luminescent cell viability assay. EC50 = 92 pg/ml (4.9 pM). NFS-60 mouse myeloid leukemia cells were treated in triplicate with a serial dilution of G-CSF for 48 hours. Cell viability was measured and normalized. Data from Qk074 lot #204487.



Purity

Recombinant G-CSF migrates as a major band at approximately 18 kDa (monomer) in non-reducing (NR) conditions. The dimeric form is the minor band at the higher molecular weight (36 kDa). Upon reduction (R), only the 18 kDa band is visible. No contaminating protein bands are present. The purified recombinant protein (3 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptothanol, R) and non-reduced (NR) conditions and stained with Coomassie Brilliant Blue R250. Data from Qk074 batch #204487.



Original product page: https://qkine.com/product/recombinant-human-g-csf-protein-qk074/

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