

Technical Data Sheet

Recombinant human G-CSF protein



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Attention: Use of this product constitutes an agreement to Bio X Cell's Terms and Conditions which are included with this product in print and can also be found at <https://bioxcell.com/terms-and-conditions>.

Lot Specific Information

Lot Number: Lot Specific*

Total Protein: Lot Specific*

*This information will be noted on the certificate of analysis that ships with this product.

Shelf Life

This product has a guaranteed shelf-life of one year from the date of customer receipt when stored as recommended.

Product Website Link: <https://bioxcell.com/recombinant-human-g-csf-protein-rp021>

Product Information

Catalog Number:	RP021
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.5 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in sterile-filtered water at >50 µg/ml. Once reconstituted, store in single-use aliquots to avoid freeze-thaw cycles. Store reconstituted protein at -20 °C to -80 °C for a maximum of 12 months or until the expiry date if sooner.
Sterility:	Sterile
Production:	Microbial. Expressed in E. coli
Molecular Weight:	18.6 kDa (monomer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human G-CSF protein (granulocyte colony-stimulating factor / CSF-3) is an 18.6 kDa, 174-amino-acid secreted glycoprotein of the hematopoietic growth factor family that regulates granulopoiesis, driving the maturation of committed progenitors into granulocytes such as neutrophils and controlling their proliferation and mobilization in health and disease. Released by macrophages, fibroblasts, endothelial and epithelial cells under inflammatory stimuli (IL-17, IL-1, TNF-α, IFN-β, LPS and VEGF), G-CSF binds the homodimeric G-CSF receptor on myeloid and stromal cells to activate JAK/STAT, Src (Lyn), Ras/ERK and PI3K signaling. In cell culture, recombinant G-CSF maintains neutrophils and drives neutrophil-lineage differentiation, including the generation of functional neutrophils from iPSCs, and contributes to STAT-driven cardiac differentiation from iPSCs. G-CSF is studied for roles in Alzheimer's disease, wound healing and bone marrow-derived cell mobilization, and is used clinically to accelerate hematopoietic recovery after transplantation and to treat chemotherapy-induced neutropenia. This protein is optimized for in vivo and functional applications: low-endotoxin, tag-free, and carrier-free, supporting reproducible performance in demanding preclinical and bioactivity studies. Human and murine G-CSF are ~73% identical and show species cross-reactivity. Species similarity: mouse - 75%, rat - 73%, bovine - 81%, porcine - 79%.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**

It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at <https://bioxcell.com/faqs>.

Store lyophilized protein between -20 °C and -80 °C until the date of expiry. Avoid freeze-thaw cycles

Conditions: For research use only. Not for use in diagnostic or therapeutic

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procedures.

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