Technical Data Sheet

Recombinant human/mouse FGF-1 protein

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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 Information

Catalog Number:	**RP078**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Epithelial organoid culture Differentiation of iPSCs into epithelial cells Mesenchymal stem cell research Organoid growth and proliferation Differentiation of neural progenitor cells into oligodendrocyte precursor cells Maintenance and differentiation of hematopoietic stem cells
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:	15.9 kDa (monomer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human/mouse FGF-1 protein (fibroblast growth factor 1) is a 155-amino-acid, ~17–18 kDa member of the FGF family built from 12 anti-parallel β-strands arranged in a three-fold symmetric β-sheet, which binds FGF receptors such as FGFR1 to activate the Ras/Raf/Mek/Erk, PI3K/Akt, JNK/MAPK and STAT3/NF-κB pathways. FGF-1 regulates proliferation, migration and differentiation of mesenchymal cells, is a key regulator of angiogenesis and wound healing through endothelial and epithelial cell maintenance, has neurotrophic and adipocyte-regulating functions, and promotes hematopoietic stem cell differentiation, and it is implicated in tumor growth and migration. It is explored for regenerative medicine and wound healing, glucose lowering in type 2 diabetes, remyelination in multiple sclerosis, myocardial infarction therapy and targeted cancer therapies. In culture, recombinant FGF-1 promotes endothelial and epithelial cell proliferation and branching for embryonic lung epithelium and human iPSC-derived ureteric bud organoids, maintains neural progenitors, oligodendrocytes and astroglia, and supports bone marrow-derived mesenchymal and hematopoietic stem and progenitor cells, making it a versatile reagent for stem cell and organoid research. 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. A GMP-grade version of this protein is available for cell and gene therapy manufacturing. Contact us at customerservice@bioxcell.com for details. Species reactivity: human. Species similarity: mouse - 96%, rat - 96%, bovine - 92%, porcine - 97%.

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

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