Technical Data Sheet

Recombinant human/mouse FGF-18 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:	**RP076**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Growth and proliferation of chondrocytes, fibroblasts and primary cells Expansion of induced pluripotent, embryonic and mesenchymal stem cells Directed chondrogenic differentiation of mesenchymal stem cells Directed osteogenic differentiation of mesenchymal stem cells Stimulation of angiogenesis and vascular network development Induction of cell migration, proliferation and extracellular matrix production
Formulation:	Lyophilized, white powder
Endotoxin:	≤1.3 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:	20.2 kDa (monomer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human/mouse FGF-18 protein (fibroblast growth factor 18) is a heparin-binding member of the FGF family that binds FGFR1c, FGFR2c, FGFR3c and FGFR4 together with heparan sulfate proteoglycans, triggering receptor dimerization and Ras-MAPK and PI3K-Akt signaling. Expressed in adult tissues undergoing regeneration, FGF-18 regulates endochondral bone formation, chondrocyte proliferation and differentiation and osteogenesis, maintains articular cartilage, promotes angiogenesis and wound healing, and has been implicated in lung branching morphogenesis and liver fibrosis via hepatic stellate cells, and it is being explored as a therapeutic for osteoarthritis, osteoporosis and bone fractures. In cell culture, FGF-18 is a potent mitogen used to support expansion of primary chondrocytes and fibroblasts, to maintain and direct differentiation of mesenchymal, embryonic and induced pluripotent stem cells, to help sustain the undifferentiated state in combination with other growth factors, to enhance chondrogenic and osteogenic differentiation of mesenchymal progenitors, and to promote endothelial proliferation for vascular tissue engineering, making it a key reagent for skeletal biology, stem cell and regenerative medicine 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 - 98%, rat - 98%, bovine - 98%, porcine - 98%.

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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