Technical Data Sheet

Recombinant mouse FGF-8b 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:	**RP046**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Differentiation of midbrain dopaminergic neurons Neurite outgrowth from spiral ganglion neurons Generation of iPSC-derived midbrain organoids
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:	22.5 kDa
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant mouse FGF-8b protein (fibroblast growth factor 8b) is a heparin-binding, monomeric isoform of FGF-8, a 22.5 kDa, 194-amino-acid protein with a β-sheet-rich structure and a conserved heparin-binding domain essential for activity, that binds FGF receptors (FGFR) to activate the Ras/MAPK signaling pathway. Human and mouse FGF-8b share 100% homology, and among the FGF-8 isoforms FGF-8b shows the strongest receptor affinity and oncogenic capacity. Widely expressed during embryogenesis, FGF-8b is a key player in epithelial-mesenchymal transitions, contributes to organizing and inducing activity during gastrulation, and regulates patterning of the brain, eye, ear, limb and heart, with transgenic studies showing that FGF-8b can transform the midbrain into cerebellum. FGF-8b promotes neural regeneration and neurite outgrowth in spiral ganglion neurons, is combined with Shh, Ascl1 and Nurr1 to reprogram fibroblasts into dopaminergic neurons, and is used to generate dopaminergic neurons from iPSCs and dental pulp stem cells and to produce iPSC-derived ventral midbrain organoids, making it a key reagent for neural development, 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. Species reactivity: mouse. Species similarity: human - 100%.

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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