Technical Data Sheet

Recombinant human/mouse GDNF 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:	**RP065**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Differentiation of midbrain dopaminergic neurons
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:	30.4 kDa (dimer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human/mouse GDNF protein (glial cell line-derived neurotrophic factor) is a ~30 kDa cystine-knot homodimer of the GDNF family of ligands (GFL), which also includes neurturin, artemin and persephin, and signals through the RET receptor tyrosine kinase in a manner dependent on GFRα co-receptors, binding preferentially and with high affinity to GFRα1. Produced mainly by glial cells such as astrocytes, Schwann cells and satellite cells, GDNF is crucial for the development, growth and survival of neurons, particularly midbrain dopaminergic neurons, promoting their axon growth and innervation, and it also drives astrocyte differentiation, neuroprotection, kidney development and spermatogenesis. GDNF has shown therapeutic promise in Parkinson's disease, ALS, Huntington's disease and nerve and spinal cord injuries. In cell culture, GDNF is combined with BDNF, FGF-8, Shh, NT-3, IGF-1, CNTF and LIF to generate dopaminergic, glutamatergic and GABAergic neurons and astrocytes from iPSC-derived neural progenitors, and it is required with BDNF for cortical organoid maturation, making it a key reagent for neuroscience 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 - 93%, rat - 93%, bovine - 92%, porcine - 94%.

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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