Technical Data Sheet

Recombinant human GDF-11 (BMP-11) 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:	**RP105**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Neurogenesis and neural differentiation Wound healing and tissue repair
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.5 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in 10 mM HCl (Reconstitution Buffer A) 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:	25 kDa (dimer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human GDF-11 (BMP-11) protein (growth differentiation factor 11) is a cystine-knot cytokine of the BMP/GDF family within the TGF-β superfamily, closely homologous to GDF-8/myostatin and a key regulator of cell growth and differentiation during muscular and neural development. Like GDF-8, GDF-11 binds activin type 2 receptors and recruits ALK4 or ALK5 to activate Smad2/3 signaling, but it can also recruit ALK7 or ALK1 to activate Smad1/5/9, which may underlie its distinct signaling and developmental responses. Circulating GDF-11 levels decline with age, highlighting it as a potential therapeutic in age-related diseases, and recombinant GDF-11 exerts pro-myogenic effects in skeletal muscle, anti-hypertrophic effects in the heart and beneficial effects on neurogenesis and neuronal function relevant to stroke. In culture, it increases proliferation of aged satellite cells, an effect not seen with GDF-8 or TGF-β1, dose-dependently decreases adipogenesis in mesenchymal stem cells via ALK4/5-dependent Smad2/3 signaling, and reduces osteoblast and chondrocyte differentiation, making it a key reagent for aging, muscle, bone and stem cell 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: human.

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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