Technical Data Sheet

Recombinant mouse/rat BMP-2 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:	**RP037**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Generation of iPSC-derived osteoblasts and chondrocytes Growth and proliferation of chondrocytes, fibroblasts and primary cells Neural stem cell proliferation and neuronal differentiation Stem cell differentiation into neural and microglial lineages
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:	26 kDa (dimer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant mouse/rat BMP-2 protein (bone morphogenetic protein 2) is a member of the BMP subgroup of the transforming growth factor beta (TGF-β) superfamily and a potent regulator of embryonic patterning along the dorso-ventral axis, organogenesis, limb bud formation, and bone and cartilage growth. Synthesized as a preproprotein comprising an N-terminal signal peptide, a 259-residue pro-domain and a 114-residue mature domain, BMP-2 is proteolytically processed to form active disulfide-linked homodimers as well as heterodimers with BMP-7. Mature BMP-2 shares 100% amino acid sequence identity between human, mouse and rat, and 85% identity with the related BMP-4, but less than 51% with other BMPs. As a strong differentiation factor, recombinant BMP-2 directs pluripotent stem cells toward extra-embryonic endoderm, mesenchymal and neural lineages, and chondrocytes, and induces bone and cartilage formation in vitro and chondrogenesis in adult mesenchymal stem cells, making it a key growth factor for stem cell differentiation and bone and cartilage 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, rat. Species similarity: human - 100%, bovine - 100%, porcine - 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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