

Technical Data Sheet

Recombinant human 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 Website Link: <https://bioxcell.com/recombinant-human-bmp-2-protein-rp003>

Product Information

Catalog Number:	RP003
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Recommended Dilution Buffer:	InVivoPure Reconstitution Buffer A
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.5 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in 10 mM HCl (Reconstitution solution 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 human 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, organogenesis, limb bud formation, and bone and cartilage growth. Synthesized as a preproprotein and proteolytically processed to a 114-residue mature domain, BMP-2 forms active disulfide-linked homodimers as well as heterodimers with BMP-7. Mature human BMP-2 shares 100% amino acid sequence identity with mouse and rat BMP-2 and 85% identity with BMP-4, but less than 51% with other BMPs. As a strong differentiation factor, recombinant BMP-2 directs human 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/cartilage tissue-engineering 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. Mature human BMP-2 shares 100% amino acid sequence identity with mouse and rat BMP-2. It also shares 85% identity with BMP-4, but <51% with other BMPs.

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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Conditions: For research use only. Not for use in diagnostic or therapeutic procedures.

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