Technical Data Sheet

Recombinant human/mouse activin A protein

bioxcell.com

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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:	**RP035**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Large scale stem cell expansion
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:	24 kDa (dimer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human/mouse activin A protein is an engineered, optimized form of activin A, a member of the TGF-β superfamily, that incorporates an N-terminal truncation removing a disulfide-linked extension, allowing extremely consistent, high-yield manufacture with no observed change in bioactivity compared to the wild-type protein. Activins are disulfide-linked homo- and heterodimers of inhibin β chains, with activin A a homodimer of inhibin βA, synthesized as a larger precursor whose pro-domain supports biosynthesis, stabilization, transport and signaling, and activin A activity is regulated by the high-affinity inhibitor follistatin and by inhibins. In vivo, activin A regulates embryogenesis, reproductive system development, wound healing and immune responses. In cell culture, activin A is used with FGF-2 to maintain pluripotency of human induced pluripotent and embryonic stem cells, directs differentiation into definitive endoderm as a precursor to pancreatic and liver cells, promotes neural precursor cells and astrocytic differentiation with CNTF and GDNF, supports mesodermal differentiation into muscle, bone and blood cells, and is widely used for organoid development and maintenance, making activin A particularly suited to large-scale stem cell culture processes. 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 - 100%, rat - 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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