Technical Data Sheet

Recombinant human/mouse follistatin-resistant activin A (FRACTA) 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:	**RP055**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Induced pluripotent and embryonic stem cell differentiation and maintenance
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 human/mouse follistatin-resistant activin A (FRACTA) protein is an engineered form of activin A, a member of the TGF-β superfamily and a disulfide-linked homodimer of inhibin βA chains, synthesized as a precursor with a signal peptide, a 250–350-residue pro-domain and a highly conserved mature domain. Activin A is involved in stem cell differentiation and maintenance, embryogenesis, reproductive system development, wound healing and immune regulation, and its signaling is modulated by inhibins and by follistatin, a glycoprotein whose production is stimulated by activin A in a feedback loop and which neutralizes TGF-β superfamily members by shielding their type I and type II receptor binding sites. Recombinant activin A is widely used to maintain pluripotency in human induced pluripotent and embryonic stem cell lines and to induce differentiation into endoderm and other cell fates. Developed in the lab of Marko Hyvönen at the University of Cambridge, FRACTA is engineered to be unimpeded by follistatin while retaining its ability to bind type I and II receptors, making it a valuable tool for stem cell culture and differentiation where follistatin feedback limits activin A activity. 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 - 98%, rat - 98%, bovine - 98%, porcine - 98%.

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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