Technical Data Sheet

Recombinant bovine vitronectin 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:	**RP102**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Maintenance and expansion of bovine iPSC, ESC and primary cells Differentiation of human pluripotent stem cells towards extra-embryonic endoderm, mesenchymal, neural lineages, and chondrocytes Promotion of cell adhesion and migration Stimulation of angiogenesis and vascular network development Organoid growth and proliferation
Formulation:	Lyophilized, white powder
Endotoxin:	≤28.3 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in sterile-filtered water at 1 mg/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:	50.1 kDa (monomer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant bovine vitronectin protein is an ~75 kDa multifunctional glycoprotein of the extracellular matrix (ECM) and blood plasma, comprising an N-terminal somatomedin B domain that binds the urokinase receptor and stabilizes inactive PAI-1, a heparin-binding RCL domain and hemopexin-like repeats that mediate interactions with integrins and other ECM components. By binding integrins such as αvβ3 and αvβ5, vitronectin activates PI3K/AKT and MAPK/ERK signaling to regulate cell adhesion, migration, proliferation and survival, and it contributes to wound healing, tissue repair, proteolysis and fibrinolysis, immune regulation, angiogenesis and tumorigenesis. In cell culture, vitronectin is used as a coating substrate that promotes attachment of epithelial, endothelial and certain cancer cells and prevents anoikis, and it is a key component of defined, xeno-free systems for iPSC and ESC maintenance and differentiation, organoid formation including liver organoids, tissue-engineering scaffolds, cell therapy preparation and serum-free media, where recombinant vitronectin ensures batch-to-batch consistency, making it a valuable tool for stem cell and organoid 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: bovine.

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

Bio X Cell, LLC
https://bioxcell.com
+1-866-787-3444
customerservice@bioxcell.com

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