Technical Data Sheet

Recombinant human 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:	**RP101**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Induced pluripotent and embryonic stem cell differentiation and maintenance Differentiation of human pluripotent stem cells towards extra-embryonic endoderm, mesenchymal, neural lineages, and chondrocytes Promotion of cell adhesion and migration Organoid growth and proliferation Stimulation of angiogenesis and vascular network development Fully defined, animal-free protocols for translational studies and preclinical stem cell production
Formulation:	Lyophilized, white powder
Endotoxin:	≤1.9 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:	47.8 kDa (monomer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human vitronectin protein is a ~75 kDa multifunctional glycoprotein of the extracellular matrix (ECM) and blood plasma comprising an N-terminal somatomedin B domain, which 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, with conformational changes exposing distinct binding sites. By binding integrins such as αvβ3 and αvβ5, vitronectin drives cell adhesion and migration and activates PI3K/AKT and MAPK/ERK signaling, preventing anoikis, and it contributes to wound healing, tissue repair, regulation of proteolysis and fibrinolysis, immune regulation, angiogenesis, tumorigenesis and metastasis. As a coating substrate it promotes attachment of epithelial, endothelial and certain cancer cells, supports iPSC and ESC maintenance and differentiation in defined, xeno-free systems, supports cell clustering for organoid formation including liver organoids, and enhances scaffolds for tissue engineering and cell therapy. Recombinant vitronectin replaces serum-derived adhesion factors in serum-free media and ensures batch-to-batch consistency, making it a key reagent 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. 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 - 74%, rat - 76%, bovine - 72%, porcine - 74%.

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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