

## Product Information

## Vitronectin, human

Recombinant, expressed in HEK 293 cells cell culture tested

**SRP3186**

Storage Temperature -20 °C

Synonyms: Serum-spreading factor, V75, VTN, s-protein, epiboin

### Product Description

Vitronectin is a secreted glycoprotein which is synthesized in the liver.<sup>1</sup> It circulates primarily in monomeric form, but can undergo conformational change to a structure that forms disulfide linked multimers.<sup>2</sup> Vitronectin can efficiently bind to and incorporate into the extracellular matrix (ECM) of various human tissues supporting cell adhesion and differentiation, as well as regulating ECM composition and stability.<sup>3</sup> Within the matrix, vitronectin can support cell adhesion through binding to various integrins and other proteoglycans.<sup>4</sup> Additionally, recombinant vitronectin can function as a chemically defined matrix component in human embryonic stem cell renewal media.<sup>5</sup>

Recombinant human Vitronectin is a protein consisting of 459 amino acids. It exists in two forms: a single chain and a clipped form consisting of two chains held together by disulfide bonds resulting from an endogenous cleavage. Under reducing conditions, the single chain migrates at an apparent molecular mass of 75 kDa on SDS-PAGE, and the clipped form migrates at molecular masses of 65 kDa and 10 kDa.

The biological activity of recombinant human vitronectin was tested in culture by measuring the ability of immobilized vitronectin to support adhesion of CHO cells.

Purity: ≥ 95% (SDS-PAGE)

Purity: ≥ 95% (HPLC)

Endotoxin level: ≤1 EU/μg of vitronectin

### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

Store the lyophilized product at -20 °C. The product is stable for at least 2 years as supplied.

### Preparation Instructions

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1–1.0 mg/mL. Do not vortex. This solution can be stored at 2–8 °C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20 °C to -80 °C.

## References

1. Yasumitsu, H. et al., Vitronectin secretion by hepatic and non-hepatic human cancer cells. In *Vitro Cell Dev. Biol. – Animal*, 29, 403-407 (1993).
2. Xu, D. et al., Model for the three-dimensional structure of vitronectin: predictions for the multi-domain protein from threading and docking. *Proteins*, 44, 312-320 (2001).
3. Preissner, K.T., Structure and biological role of vitronectin. *Annu. Rev. Cell Biol.*, 7, 275-310 (1991).
4. Kim, S. et al., Extracellular matrix and cell signalling: the dynamic cooperation of integrin, proteoglycan and growth factor receptor. *J. Endocrinol.*, 209, 139-151 (2011).
5. Braam, S.R. et al., Recombinant Vitronectin Is a Functionally Defined Substrate That Supports Human Embryonic Stem Cell Self-Renewal via  $\alpha V\beta 5$  Integrin. *Stem Cells*, 26, 2257–2265 (2008).

## Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

### Technical Assistance

Visit the tech service page at [SigmaAldrich.com/techservice](https://SigmaAldrich.com/techservice).

### Terms and Conditions of Sale

Warranty, use restrictions, and other conditions of sale may be found at [SigmaAldrich.com/terms](https://SigmaAldrich.com/terms).

### Contact Information

For the location of the office nearest you, go to [SigmaAldrich.com/offices](https://SigmaAldrich.com/offices).

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

MilliporeSigma, and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

© 2023 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

SRP3186pis Rev 08/23