BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno-Řečkovice a Mokrá Hora

Date of issue: 29.10.2020

PRODUCT DATASHEET

Vitronectin Human HEK293 cells, Animal-Free

Cat. No.: RBAF103481MG
Type: Recombinant protein
Size: 1 mg
Source: HEK293 cells
Species: Human

Description

Vitronectin is a secreted glycoprotein which is synthesized in the liver. It circulates primarily in monomeric form, but can undergo conformational change to a structure that forms disulfide linked multimers. The multimeric Vitronectin can efficiently bind to and incorporate into the extracellular matrix. Within the matrix, Vitronectin can support cell adhesion through binding to various integrins and other proteoglycans. Additionally, recombinant vitronectin can function as a chemically defined matrix component in human embryonic stem cell renewal media. Recombinant human Vitronectin is a 459 amino acid single chain monomeric protein, which migrates at an apparent molecular weight of 75 kDa by SDS-PAGE under reducing conditions. Manufactured using all non-animal reagents.

Other names

Introduction to the molecule

Vitronectin is an 75 kDa glycoprotein consisting of 459 amino acid residues. It is abundant in blood plasma and the extracellular matrix. Vitronectin contains three glycosylation sites that contribute approximately 30% of its molecular mass. It circulates as a singlechain (75 kDa) and two-chain (10 and 65 kDa) forms under reducing conditions. Under non-reducing conditions, the Nterminal 65 kDa and C-terminal 10 kDa fragments are linked by a single disulfide bond . Vitronectin has been implicated as a regulator of many diverse physiological processes including coagulation, fibrinolysis, pericellular proteolysis, complement dependent immune response, cell attachment and spreading. Cell adhesion and migration are directly involved in cancer metastasis and tumor malignancy. The Somatomedin B domain of Vitronectin binds to Plasminogen activator inhibitor-1 (PAI-1), and stabilizes it. Thus vitronectin serves to regulate proteolysis initiated by plasminogen activation. Additionally vitronectin is a component of platelets and is thus involved in hemostasis via heparin binding which neutralizing antithrombin III inhibition of thrombin and factor Xa. Vitronectin contains an RGD (45–47) sequence which is a binding site for membrane bound integrins, which serve to anchor cells to the extracellular matrix.

Research topic

Animal studies, Extracellular matrix

Amino Acid sequence

DQESCKGRCT EGFNVDKKCQ CDELCSYYQS CCTDYTAECK PQVTRGDVFT MPEDEYTVYD DGEEKNNATV HEQVGGPSLT SDLQAQSKGN PEQTPVLKPE EEAPAPEVGA SKPEGIDSRP ETLHPGRPQP PAEEELCSGK PFDAFTDLKN GSLFAFRGQY CYELDEKAVR PGYPKLIRDV WGIEGPIDAA FTRINCQGKT YLFKGSQYWR FEDGVLDPDY PRNISDGFDG IPDNVDAALA LPAHSYSGRE RVYFFKGKQY WEYQFQHQPS QEECEGSSLS AVFEHFAMMQ RDSWEDIFEL LFWGRTSAGT RQPQFISRDW HGVPGQVDAA MAGRIYISGM APRPSLAKKQ RFRHRNRKGY RSQRGHSRGR NQNSRRPSRA TWLSLFSSEE SNLGANNYDD YRMDWLVPAT CEPIQSVFFF SGDKYYRVNL RTRRVDTVDP PYPRSIAQYW LGCPAPGHL

Purity

≥ 95%

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Biological activity
Recombinant human Vitronectin promotes attachment of hESC and iPSC in serum-free, feeder conditions at 5ug/ml.

Endotoxin
< 0.1 EU/µg

Formulation:

Sterile filtered through a 0.2-micron filter. Lyophilized from 20mM Sodium Phosphate, pH 7.5.

Reconstituion:
Initially reconstitute in water to 0.1-1.0 mg/ml. Store at 2°C to 8°C for up to 1 week or prepare for extended storage.

Shipping
At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life
Store lyophilized protein at –20°C to –80°C. Lyophilized protein remains stable until the expiry date when stored at –20°C to –80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at 2°C to 8°C for up to one week, or –20°C to –80°C for extended storage up to 3 months.

Applications
Biologically active protein, Cell culture and/or animal studies, In vitro

Note
This BioVendor product is furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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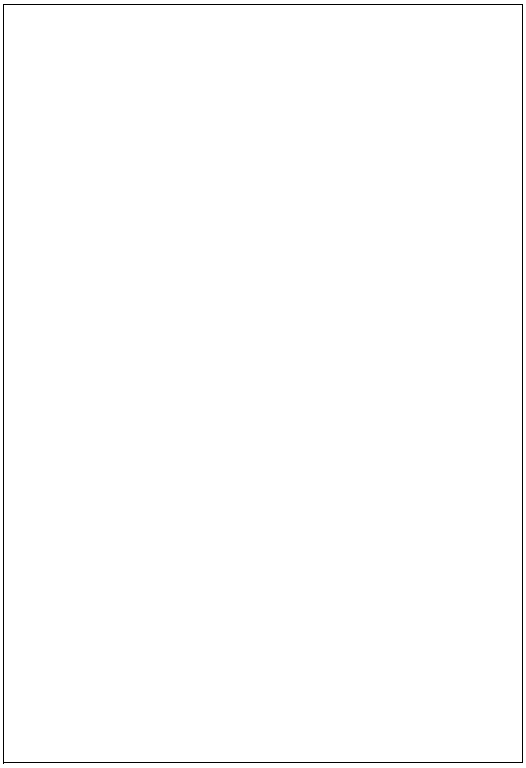

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