SANTA CRUZ BIOTECHNOLOGY, INC.

Vitronectin 75 (CSI 004-18): sc-59805

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fibronectin and Vitronectin are extracellular matrix glycoproteins that are present on most cell surfaces, in extracellular fluids, and in plasma. Both Fibronectin and Vitronectin have been shown to be involved in various functions including cell adhesion, cell motility and wound healing. Vitronectin contains an RGD (Arg-Gly-Asp acid) sequence that is present in many cell adhesion ligands. The RGD sequence has been shown to be essential for cell adhesion. Increased expression of Vitronectin, integrins and plasminogen activators has been observed in migrating cells during wound healing. Vitronectin has been shown to enhance smooth cell migration, and PAI-1 has been shown to bind to Vitronectin with high affinity, resulting in the blocking of smooth cell migration. Glycosaminoglycans, proteins involved in the anchoring of Vitronectin to the extracellular matrix, have been shown to stimulate the cleavage of Vitronectin by plasmin. This cleavage reduces the affinity of Vitronectin for PAI-1.

REFERENCES

1. Akiyama, S.K., et al. 1981. The structure of Fibronectin and its role in cellular adhesion. J. Supramol. Struct. Cell. Biochem. 16: 345-348.
2. Ruoslahti, E., et al. 1982. Molecular and biological interactions in Fibronectin. J. Invest. Dermatol. 79: 65-68.
3. Chain, D., et al. 1991. Plasmin cleavage of Vitronectin. Identification of the site and consequenct attenuation in binding plasminogen activator inhibitor-1. FEBS Lett. 285: 251-256.
4. Bauer, J.S., et al. 1992. Motility of Fibronectin receptor-deficient cells on Fibronectin and Vitronectin: collaborative interactions among integrins. J. Cell Biol. 116: 477-487.
5. Cherny, R.C., et al. 1993. Site-directed mutagenesis of the arginine-glycine-aspartic acid in Vitronectin abolishes cell adhesion. J. Biol. Chem. 268: 9725-9729.
6. Stefansson, S., et al. 1996. The serpin PAI-1 inhibits cell migration by blocking Integrin αV/β3 binding to Vitronectin. Nature 383: 441-443.
7. Rosenblatt, S., et al. 1997. Differential modulation of cell adhesion by interaction between adhesive and counter-adhesive proteins: characterization of the binding of Vitronectin to osteonectin (BM40, SPARC). Biochem. J. 324: 311-319.
8. Chauhan, A.K., et al. 2006. Presence of plasma complement regulatory proteins clusterin (Apo J) and Vitronectin (S40) on circulating immune complexes (CIC). Clin. Exp. Immunol. 145: 398-406.
9. Kundu, A.K., et al. 2006. Vitronectin and Collagen I differentially regulate osteogenesis in mesenchymal stem cells. Biochem. Biophys. Res. Commun. 347: 347-357.

SOURCE

Vitronectin 75 (CSI 004-18) is a mouse monoclonal antibody raised against lysed corneal endothelial cells and extracellular matrix of bovine origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Vitronectin 75 (CSI 004-18) is recommended for detection of Vitronectin 75 of bovine and equine origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other connective tissue proteins (Fibronectin, Elastin, Collagen, Laminin).

Molecular Weight of Vitronectin single chain: 75 kDa.

Molecular Weight of Vitronectin cleaved two-chain forms: 65/10 kDa.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.