

vinculin (V284): sc-59803

BACKGROUND

Focal adhesions were identified as areas within the plasma membrane of tissue culture cells that adhere tightly to the underlying substrate. *In vivo*, these regions are involved in the adhesion of cells to the extracellular matrix. Paxillin and vinculin are cytoskeletal, focal adhesion proteins that are components of a protein complex which links the Actin network to the plasma membrane. Vinculin binding sites have been identified on other cytoskeletal proteins, including Talin and α -actinin. In addition, vinculin, Talin and α -actinin each contain Actin binding sites. Expression of vinculin and Talin have been shown to be affected by the level of Actin expression. α -actinin has been shown to link Actin to integrins in the plasma membrane through interactions with the vinculin and Talin complex or by a direct interaction with integrin.

CHROMOSOMAL LOCATION

Genetic locus: VCL (human) mapping to 10q22.2; Vcl (mouse) mapping to 14 A3.

SOURCE

vinculin (V284) is a mouse monoclonal antibody raised against vinculin from platelets of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

vinculin (V284) is recommended for detection of vinculin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for vinculin siRNA (h): sc-29524, vinculin siRNA (m): sc-36819, vinculin siRNA (r): sc-270542, vinculin shRNA Plasmid (h): sc-29524-SH, vinculin shRNA Plasmid (m): sc-36819-SH, vinculin shRNA Plasmid (r): sc-270542-SH, vinculin shRNA (h) Lentiviral Particles: sc-29524-V, vinculin shRNA (m) Lentiviral Particles: sc-36819-V and vinculin shRNA (r) Lentiviral Particles: sc-270542-V.

Molecular Weight of vinculin: 117 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

STORAGE

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

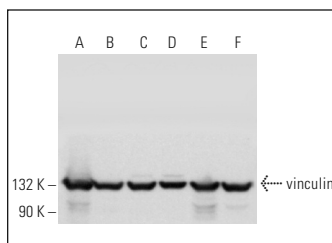
PROTOCOLS

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

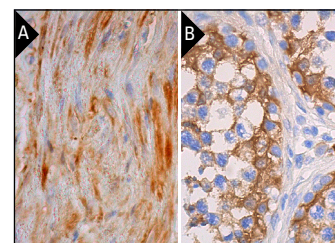
RESEARCH USE

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

DATA



vinculin (V284): sc-59803. Western blot analysis of vinculin expression in HeLa (A), HEL 92.1.7 (B), NIH/3T3 (C), EOC 20 (D), C6 (E) and PC-12 (F) whole cell lysates.



vinculin (V284): sc-59803. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts (B).

SELECT PRODUCT CITATIONS

- Fernandes, H., et al. 2009. The role of collagen crosslinking in differentiation of human mesenchymal stem cells and MC3T3-E1 cells. *Tissue Eng. Part A* 15: 3857-3867.
- Gai, J.H., et al. 2011. Cell budding from pre-invasive tumors: intrinsic precursor of invasive breast lesions? *Exp. Ther. Med.* 2: 633-639.
- Rubashkin, M.G., et al. 2014. Force engages vinculin and promotes tumor progression by enhancing PI3K activation of phosphatidylinositol (3,4,5)-triphosphate. *Cancer Res.* 74: 4597-4611.
- Phuyal, S., et al. 2015. The ether lipid precursor hexadecylglycerol stimulates the release and changes the composition of exosomes derived from PC-3 cells. *J. Biol. Chem.* 290: 4225-4237.
- Lampi, M.C., et al. 2016. Simvastatin ameliorates matrix stiffness-mediated endothelial monolayer disruption. *PLoS ONE* 11: e0147033.
- Bernhardt, A., et al. 2017. Inflammatory cell infiltration and resolution of kidney inflammation is orchestrated by the cold-shock protein Y-box binding protein-1. *Kidney Int.* 92: 1157-1177.
- Reckzeh, E.S., et al. 2019. Inhibition of glucose transporters and glutaminase synergistically impairs tumor cell growth. *Cell Chem. Biol.* 26: 1214-1228.e25.
- Shah, A., et al. 2020. YB-1 mediates TNF-induced pro-survival signaling by regulating NF κ B activation. *Cancers* 12: 2188.
- Bernhardt, A., et al. 2021. High salt diet-induced proximal tubular phenotypic changes and sodium-glucose cotransporter-2 expression are coordinated by cold shock Y-box binding protein-1. *FASEB J.* 35: e21912.

CONJUGATES

See **vinculin (7F9): sc-73614** for vinculin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.