SANTA CRUZ BIOTECHNOLOGY, INC.

vinculin (G-11): sc-55465



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 (G-11) is a mouse monoclonal antibody raised against amino acids 1-300 of vinculin of human origin.

PRODUCT

Each vial contains 200 $\mu g~lgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

vinculin (G-11) is available conjugated to agarose (sc-55465 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-55465 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55465 PE), fluorescein (sc-55465 FITC), Alexa Fluor* 488 (sc-55465 AF488), Alexa Fluor* 546 (sc-55465 AF546), Alexa Fluor* 594 (sc-55465 AF594) or Alexa Fluor* 647 (sc-55465 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor* 680 (sc-55465 AF680) or Alexa Fluor* 790 (sc-55465 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

vinculin (G-11) is recommended for detection of vinculin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

vinculin (G-11) is also recommended for detection of vinculin in additional species, including equine.

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-36819-V and vinculin shRNA (r) Lentiviral Particles: sc-36819-V.

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA





vinculin (G-11): sc-55465. Western blot analysis of vinculin expression in NTERA-2 cl.D1 (**A**), K-562 (**B**), U-937 (**C**), PC-3 (**D**), Hep G2 (**E**) and ECV304 (**F**) whole cell lysates.

vinculin (G-11): sc-55465. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, parafin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

- Salerno, S., et al. 2009. Improved functions of human hepatocytes on NH3 plasma-grafted PEEK-WC-PU membranes. Biomaterials 39: 4348-4356.
- Engel, N., et al. 2017. Synergistic action of genistein and calcitriol in immature osteosarcoma MG-63 cells by SGPL1 up-regulation. PLoS ONE 12: e0169742.
- 3. Deygas, M., et al. 2018. Redox regulation of EGFR steers migration of hypoxic mammary cells towards oxygen. Nat. Commun. 9: 4545.
- Lionnard, L., et al. 2019. TRIM17 and TRIM28 antagonistically regulate the ubiquitination and anti-apoptotic activity of BCL2A1. Cell Death Differ. 26: 902-917.
- Bessou, M., et al. 2020. The apoptosis inhibitor Bcl-x_L controls breast cancer cell migration through mitochondria-dependent reactive oxygen species production. Oncogene 39: 3056-3074.
- Arslanhan, M.D., et al. 2021. Aurora kinase A proximity map reveals centriolar satellites as regulators of its ciliary function. EMBO Rep. 22: e51902.
- Tiryaki, F., et al. 2022. ENKD1 is a centrosomal and ciliary microtubuleassociated protein important for primary cilium content regulation. FEBS J. 289: 3789-3812.
- Nguyen-Dien, G.T., et al. 2023. FBXL4 suppresses mitophagy by restricting the accumulation of NIX and BNIP3 mitophagy receptors. EMBO J. 42: e112767.
- 9. Loncová, B., et al. 2024. Inhibition of vinculin activity has an adverse effect on porcine ovarian cells. Exp. Cell Res. 435: 113950.

RESEARCH USE

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

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Molecular Weight of vinculin: 117 kDa.