

Villin (1D2C3): sc-58897

BACKGROUND

Caldesmon, Filamin 1, Nebulin and Villin are differentially expressed and regulated Actin binding proteins. Both muscular (CDh) and non-muscular (CDI) forms of Caldesmon have been identified and each has been shown to bind to Actin as well as to calmodulin and Myosin. CDh is expressed predominantly on thin filaments in smooth muscle, whereas CDI is widely expressed in non-muscle tissues and cells. Filamin 1, which is ubiquitously expressed and exists as a homodimer, functions to crosslink Actin to filaments. Nebulin is a large filamentous protein specific to muscle tissue that may function as a ruler for filament length. Several isoforms of Nebulin are produced by alternative exon usage. Villin is Ca^{2+} -regulated and is the major structural component of the brush border of absorptive cells.

CHROMOSOMAL LOCATION

Genetic locus: VIL1 (human) mapping to 2q35; Vil1 (mouse) mapping to 1 C3.

SOURCE

Villin (1D2C3) is a mouse monoclonal antibody raised against purified full length native Villin of chicken origin.

PRODUCT

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

Villin (1D2C3) is available conjugated to agarose (sc-58897 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-58897 HRP), 200 μg /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58897 PE), fluorescein (sc-58897 FITC), Alexa Fluor® 488 (sc-58897 AF488), Alexa Fluor® 546 (sc-58897 AF546), Alexa Fluor® 594 (sc-58897 AF594) or Alexa Fluor® 647 (sc-58897 AF647), 200 μg /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-58897 AF680) or Alexa Fluor® 790 (sc-58897 AF790), 200 μg /ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Villin (1D2C3) is recommended for detection of Villin of mouse, rat, human and avian origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg 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); non cross-reactive with breast cancer.

Suitable for use as control antibody for Villin siRNA (h): sc-29521, Villin siRNA (m): sc-36818, Villin shRNA Plasmid (h): sc-29521-SH, Villin shRNA Plasmid (m): sc-36818-SH, Villin shRNA (h) Lentiviral Particles: sc-29521-V and Villin shRNA (m) Lentiviral Particles: sc-36818-V.

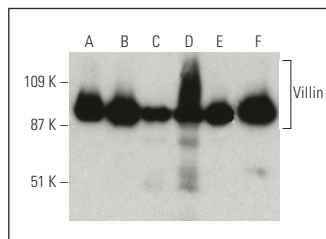
Molecular Weight of Villin: 93 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, COLO 205 whole cell lysate: sc-364177 or HT-29 whole cell lysate: sc-364232.

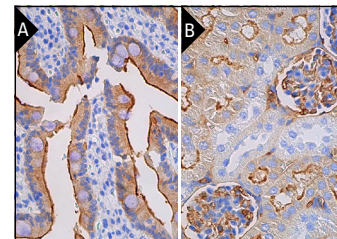
STORAGE

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

DATA



Villin (1D2C3) HRP: sc-58897 HRP. Direct western blot analysis of Villin expression in HCT-8 (A), Caco-2 (B), Hep G2 (C), COLO 205 (D) and HT-29 (E) whole cell lysates and mouse kidney tissue extract (F).



Villin (1D2C3): sc-58897. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing apical membrane and cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue showing membrane staining of cells in glomeruli and apical membrane staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

- Broere, N., et al. 2007. Cystic fibrosis transmembrane conductance regulator activation is reduced in the small intestine of Na^+/H^+ exchanger 3 regulatory factor 1 (NHERF-1)-but not NHERF-2-deficient mice. *J. Biol. Chem.* 282: 37575-37584.
- Bigorgne, A.E., et al. 2014. TTC7A mutations disrupt intestinal epithelial apicobasal polarity. *J. Clin. Invest.* 124: 328-337.
- Herm, G., et al. 2015. Renal mechanisms of calcium homeostasis in sheep and goats. *J. Anim. Sci.* 93: 1608-1621.
- Crawley, S.W., et al. 2016. ANKS4B is essential for intermicrovillar adhesion complex formation. *Dev. Cell* 36: 190-200.
- Tian, H.W., et al. 2017. Multiple pulmonary metastases with halo-sign from malignant mixed Müllerian tumors. *Oncol. Lett.* 14: 6645-6649.
- Onozato, D., et al. 2018. Generation of intestinal organoids suitable for pharmacokinetic studies from human induced pluripotent stem cells. *Drug Metab. Dispos.* 46: 1572-1580.
- Co, J.Y., et al. 2019. Controlling epithelial polarity: a human enteroid model for host-pathogen interactions. *Cell Rep.* 26: 2509-2520.e4.
- Schutgens, F., et al. 2019. Tubuloids derived from human adult kidney and urine for personalized disease modeling. *Nat. Biotechnol.* 37: 303-313.
- Zhou, J.Y., et al. 2020. Wnt/ β -catenin-mediated heat exposure inhibits intestinal epithelial cell proliferation and stem cell expansion through endoplasmic reticulum stress. *J. Cell. Physiol.* 235: 5613-5627.
- Sim, H., et al. 2020. Iroquois homeobox protein 2 identified as a potential biomarker for parkinson's disease. *Int. J. Mol. Sci.* 21: 3455.

RESEARCH USE

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