

Villin (12): sc-136119

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 Ca²⁺-regulated and is the major structural component of the brush border of absorptive cells.

REFERENCES

1. Weihing, R.R. 1988. Actin-binding and dimerization domains of HeLa cell Filamin. *Biochemistry* 27: 1865-1869.
2. Marston, S., Pinter, K. and Bennett, P. 1992. Caldesmon binds to smooth muscle Myosin and Myosin rod and crosslink thick filaments to Actin filaments. *J. Muscle Res. Cell. Motil.* 13: 206-218.
3. Maunoury, R., Robine, S., Pringault, E., Leonard, N., Gaillard, J.A. and Louvard, D. 1992. Developmental regulation of Villin gene expression in the epithelial cell lineages of mouse digestive and urogenital tracts. *Development* 115: 717-728.
4. Labeit, S. and Kolmerer, B. 1995. The complete primary structure of human Nebulin and its correlation to muscle structure. *J. Mol. Biol.* 248: 308-315.
5. Huber, P.A., El-Mezgueldi, M., Grabarek, Z., Slatter, D.A., Levine, B.A. and Marston, S.B. 1996. Multiple-sited interaction of caldesmon with Ca²⁺-Calmodulin. *Biochem. J.* 316: 413-420.
6. Zhang, J.Q., Luo, G., Herrera, A.H., Paterson, B. and Horowitz, R. 1996. cDNA cloning of mouse Nebulin. Evidence that the Nebulin-coding sequence is highly conserved among vertebrates. *Eur. J. Biochem.* 239: 835-841.

CHROMOSOMAL LOCATION

Genetic locus: VIL1 (human) mapping to 2q35.

SOURCE

Villin (12) is a mouse monoclonal antibody raised against amino acids 1-827 representing full length Villin of bovine origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

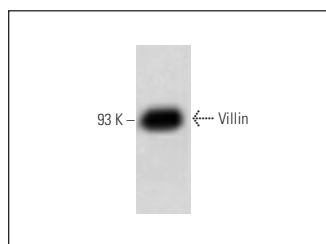
Villin (12) is recommended for detection of Villin of human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

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

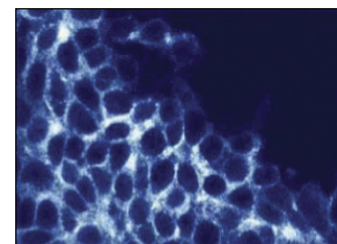
Molecular Weight of Villin: 93 kDa.

Positive Controls: HCT-8 cell lysate: sc-24675.

DATA



Villin (12): sc-136119. Western blot analysis of Villin expression in HCT-8 whole cell lysate.



Villin (12): sc-136119. Immunofluorescence staining of HCT-8 cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Rufino-Palomares, E.E., Reyes-Zurita, F.J., García-Salguero, L., Mokhtari, K., Medina, P.P., Lupianez, J.A. and Peragon, J. 2013. Maslinic acid, a triterpenic anti-tumoural agent, interferes with cytoskeleton protein expression in HT29 human colon-cancer cells. *J. Proteomics* 83: 15-25.

PROTOCOLS

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



See **Villin (1D2C3): sc-58897** for Villin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.