

Filamin 1 (SPM182): sc-56392

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., et al. 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., et al. 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., et al 1995. The complete primary structure of human Nebulin and its correlation to muscle structure. *J. Mol. Biol.* 248: 308-315.
5. Huber, P.A., et al. 1996. Multiple-sited interaction of Caldesmon with Ca²⁺-calmodulin. *Biochem. J.* 316: 413-420.
6. Zhang, J.Q., et al. 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: FLNA (human) mapping to Xq28; Flna (mouse) mapping to X A7.3.

SOURCE

Filamin 1 (SPM182) is a mouse monoclonal antibody raised against platelet Filamin 1.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 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.

APPLICATIONS

Filamin 1 (SPM182) is recommended for detection of Filamin 1 from platelets, lymphocytes, fibroblasts and smooth muscle of mouse, rat and human 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).

Suitable for use as control antibody for Filamin 1 siRNA (h): sc-35374, Filamin 1 siRNA (m): sc-35375, Filamin 1 shRNA Plasmid (h): sc-35374-SH, Filamin 1 shRNA Plasmid (m): sc-35375-SH, Filamin 1 shRNA (h) Lentiviral Particles: sc-35374-V and Filamin 1 shRNA (m) Lentiviral Particles: sc-35375-V.

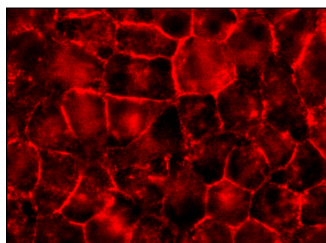
Molecular Weight of Filamin 1: 280 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, C32 whole cell lysate: sc-2205 or A-431 whole cell lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



Filamin 1 (SPM182): sc-56392. Immunofluorescence staining of methanol-fixed HeLa cells showing peripheral cytoplasmic localization.

PROTOCOLS

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