

# Filamin 1 (5): sc-135906

## 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.

## REFERENCES

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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  $Ca^{2+}$ -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.
7. Nakamura, F., et al. 2007. Structural basis of filamin A functions. *J. Cell Biol.* 179: 1011-1025.
8. Armstrong, L.J., et al. 2008. ECSM2, an endothelial specific filamin a binding protein that mediates chemotaxis. *Arterioscler. Thromb. Vasc. Biol.* 28: 1640-1646.
9. Tsuneda, S.S., et al. 2008. A new missense mutation found in the FLNA gene in a family with bilateral periventricular nodular heterotopia (BPNH) alters the splicing process. *J. Mol. Neurosci.* 35: 195-200.

## CHROMOSOMAL LOCATION

Genetic locus: FLNA (human) mapping to Xq28.

## SOURCE

Filamin 1 (5) is a mouse monoclonal antibody raised against amino acids 2492-2647 of Filamin 1 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

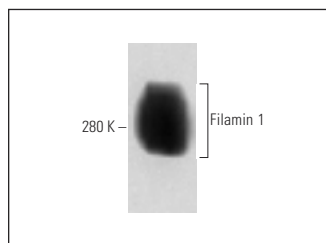
Filamin 1 (5) is recommended for detection of Filamin 1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of Filamin 1: 280 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U-87 MG cell lysate: sc-2411 or A-431 whole cell lysate: sc-2201.

## DATA



Filamin 1 (5): sc-135906. Western blot analysis of Filamin 1 expression in human endothelial tissue extract.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **Filamin 1 (E-3): sc-17749** for Filamin 1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.