

# Filamin 1 (G-9): sc-271440

## 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

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.

## CHROMOSOMAL LOCATION

Genetic locus: FLNA (human) mapping to Xq28; Flna (mouse) mapping to X A7.3.

## SOURCE

Filamin 1 (G-9) is a mouse monoclonal antibody raised against amino acids 2348-2647 mapping at the C-terminus of Filamin 1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Filamin 1 (G-9) is recommended for detection of Filamin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) 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.

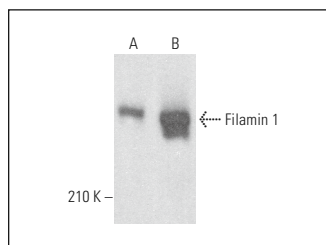
Molecular Weight of Filamin 1: 280 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or Jurkat whole cell lysate: sc-2204.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Filamin 1 (G-9): sc-271440. Western blot analysis of Filamin 1 expression in Jurkat (A) and A-431 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Wang, H.Y., et al. 2012. Reducing amyloid-related Alzheimer's disease pathogenesis by a small molecule targeting Filamin A. *J. Neurosci.* 32: 9773-9784.
2. Wang, H.Y., et al. 2017. PTI-125 binds and reverses an altered conformation of Filamin A to reduce Alzheimer's disease pathogenesis. *Neurobiol. Aging* 55: 99-114.
3. Wiecek, K., et al. 2017. Filamin A upregulation correlates with Snail-induced epithelial to mesenchymal transition (EMT) and cell adhesion but its inhibition increases the migration of colon adenocarcinoma HT29 cells. *Exp. Cell Res.* 359: 163-170.
4. Wang, H.Y., et al. 2023. Simufilam reverses aberrant receptor interactions of Filamin A in Alzheimer's disease. *Int. J. Mol. Sci.* 24: 13927.
5. Wang, H.Y., et al. 2023. Simufilam suppresses overactive mTOR and restores its sensitivity to insulin in Alzheimer's disease patient lymphocytes. *Front. Aging* 4: 1175601.

## 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.