

# Filamin 1 (PM6/317): sc-58764

## 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<sup>2+</sup>-regulated and is the major structural component of the brush border of absorptive cells.

## REFERENCES

- Weihing, R.R. 1988. Actin-binding and dimerization domains of HeLa cell Filamin. *Biochemistry* 27: 1865-1869.
- 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Filamin 1 (PM6/317) is a mouse monoclonal antibody raised against full length platelet 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, 0.1% gelatin and < 1% stabilizer protein.

## APPLICATIONS

Filamin 1 (PM6/317) 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.

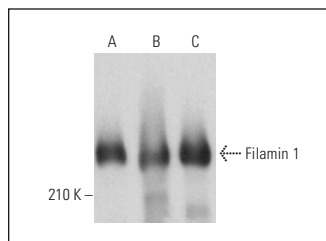
Molecular Weight of Filamin 1: 280 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or NIH/3T3 whole cell lysate: sc-2210.

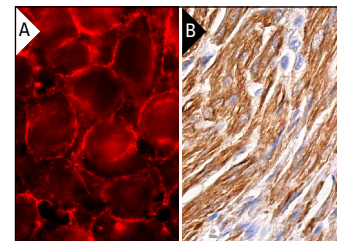
## STORAGE

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

## DATA



Filamin 1 (PM6/317): sc-58764. Western blot analysis of Filamin 1 expression in Jurkat (A), Hep G2 (B) and NIH/3T3 (C) whole cell lysates.



Filamin 1 (PM6/317): sc-58764. Immunofluorescence staining of methanol-fixed HeLa cells showing peripheral cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells (B).

## SELECT PRODUCT CITATIONS

- Tournaviti, S., et al. 2007. SH4-domain-induced plasma membrane dynamization promotes bleb-associated cell motility. *J. Cell Sci.* 120: 3820-3829.
- Lian, G., et al. 2012. Filamin A regulates neural progenitor proliferation and cortical size through Wee1-dependent Cdk1 phosphorylation. *J. Neurosci.* 32: 7672-7684.
- Zhang, J., et al. 2013. Filamin A regulates neuronal migration through brefeldin A-inhibited guanine exchange factor 2-dependent Arf1 activation. *J. Neurosci.* 33: 15735-15746.
- Lian, G., et al. 2016. Filamin A- and formin 2-dependent endocytosis regulates proliferation via the canonical Wnt pathway. *Development* 143: 4509-4520.
- Pianta, A., et al. 2017. Two rheumatoid arthritis-specific autoantigens correlate microbial immunity with autoimmune responses in joints. *J. Clin. Invest.* 127: 2946-2956.
- Kaibori, Y., et al. 2019. EphA2 phosphorylation at Ser 897 by the Cdk1/MEK/ERK/RSK pathway regulates M-phase progression via maintenance of cortical rigidity. *FASEB J.* 33: 5334-5349.
- Wang, H.Y., et al. 2020. PTI-125 reduces biomarkers of Alzheimer's disease in patients. *J. Prev. Alzheimers Dis.* 7: 256-264.

## RESEARCH USE

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



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.