

# Calponin 1 (SPM169): sc-52992

## BACKGROUND

Calponin regulates smooth muscle cell contraction and is a marker of smooth muscle cell differentiation. Calponin, an Actin- and Tropomyosin-binding protein, is characterized as an inhibitory factor of smooth-muscle actomyosin activity. Calponin is implicated in the regulation of smooth muscle contraction through its interaction with F-Actin and inhibition of the Actin-activated MgATPase activity of phosphorylated Myosin. Both properties are lost following phosphorylation (primarily at Serine 175) by protein kinase C or calmodulin-dependent protein kinase II. The three forms of Calponin, Calponin 1 (basic Calponin), Calponin 2 (neutral Calponin) and Calponin 3 (acidic Calponin) are found in smooth muscle tissue. Additionally, Calponin 2 is found in heart muscle tissue and Calponin 3 is found in the brain.

## REFERENCES

1. Tang, D.C., et al. 1996. Structure-function relations of smooth muscle Calponin. The critical role of Serine 175. *J. Biol. Chem.* 271: 8605-8611.
2. Masuda, H., et al. 1996. Molecular cloning and characterization of human non-smooth muscle Calponin. *J. Biochem.* 120: 415-424.
3. Doi, M., et al. 1997. Reduced expression of Calponin in canine basilar artery after subarachnoid haemorrhage. *Acta Neurochir.* 139: 77-81.

## CHROMOSOMAL LOCATION

Genetic locus: CNN1 (human) mapping to 19p13.2; Cnn1 (mouse) mapping to 9 A3.

## SOURCE

Calponin 1 (SPM169) is a mouse monoclonal antibody raised against crude uterus extract 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

Calponin 1 (SPM169) is recommended for detection of Calponin 1 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Calponin 1 siRNA (h): sc-43273, Calponin 1 siRNA (m): sc-43274, Calponin 1 shRNA Plasmid (h): sc-43273-SH, Calponin 1 shRNA Plasmid (m): sc-43274-SH, Calponin 1 shRNA (h) Lentiviral Particles: sc-43273-V and Calponin 1 shRNA (m) Lentiviral Particles: sc-43274-V.

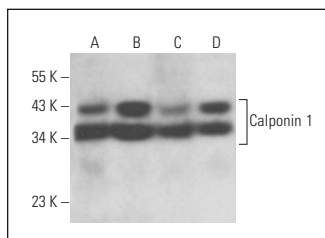
Molecular Weight of Calponin 1: 33-36 kDa.

Positive Controls: rat heart extract: sc-2393, KNRK whole cell lysate: sc-2214 or HeLa whole cell lysate: sc-2200.

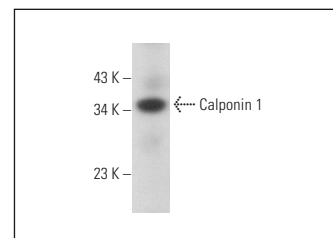
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Calponin 1 (SPM169): sc-52992. Western blot analysis of Calponin 1 expression in KNRK (A), SK-N-SH (B), HEK293 (C) and HeLa (D) whole cell lysates.



Calponin 1 (SPM169): sc-52992. Western blot analysis of Calponin 1 expression in rat heart tissue extract.

## SELECT PRODUCT CITATIONS

1. Elçin, A.E., et al. 2017. Differential gene expression profiling of human adipose stem cells differentiating into smooth muscle-like cells by TGFβ1/BMP4. *Exp. Cell Res.* 352: 207-217.
2. Kovanez, I., et al. 2017. Myostatin, a profibrotic factor and the main inhibitor of striated muscle mass, is present in the penile and vascular smooth muscle. *Int. J. Impot. Res.* 29: 194-201.

## 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.

## PROTOCOLS

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



See **Calponin 1 (CALP): sc-58707** for Calponin 1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.