SANTA CRUZ BIOTECHNOLOGY, INC.

Calponin 2 (N-18): sc-16607

BACKGROUND

Calponin, a 34 kDa protein, 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.
4. Kaneko, T., et al. 2000. Identification of Calponin as a novel substrate of ρ-kinase. Biochem. Biophys. Res. Commun. 273: 110-116.
6. Yoshimoto, R., et al. 2000. Proteolysis of acidic Calponin by μ-Calpain. J. Biochem. 128: 1045-1049.

CHROMOSOMAL LOCATION

Genetic locus: CNN2 (human) mapping to 19p13.3; Cnn2 (mouse) mapping to 10 C1.

SOURCE

Calponin 2 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Calponin 2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16607 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

Calponin 2 (N-18) is recommended for detection of Calponin 2 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

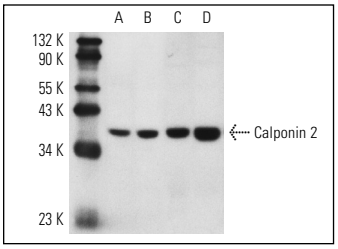
Calponin 2 (N-18) is also recommended for detection of calponin 2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Calponin 2 siRNA (h): sc-29891, Calponin 2 siRNA (m): sc-29892, Calponin 2 shRNA Plasmid (h): sc-29891-SH, Calponin 2 shRNA Plasmid (m): sc-29892-SH, Calponin 2 shRNA (h) Lentiviral Particles: sc-29891-V and Calponin 2 shRNA (m) Lentiviral Particles: sc-29892-V.

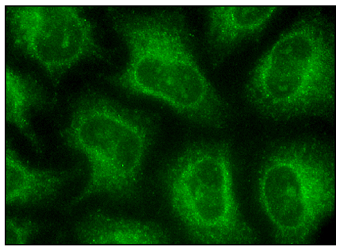
Molecular Weight of Calponin 2: 37 kDa.

Positive Controls: A-10 cell lysate: sc-3806, SK-N-SH cell lysate: sc-2410 or rat heart extract: sc-2393.

DATA



Calponin 2 (N-18): sc-16607. Western blot analysis of Calponin 2 expression in A-10 (**A**) and SK-N-SH (**B**) whole cell lysates and rat heart (**C**) and mouse brain (**D**) tissue extracts.



Calponin 2 (N-18): sc-16607. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2013. Differentiated markers in undifferentiated cells: expression of smooth muscle contractile proteins in multipotent bone marrow mesenchymal stem cells. Dev. Growth Differ. 55: 591-605.