

Calponin 3 (H-55): sc-28546

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 Mg-ATPase 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.

CHROMOSOMAL LOCATION

Genetic locus: CNN3 (human) mapping to 1p21.3; Cnn3 (mouse) mapping to 3 G1.

SOURCE

Calponin 3 (H-55) is a rabbit polyclonal antibody raised against amino acids 275-329 mapping at the C-terminus of Calponin 3 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.

STORAGE

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

APPLICATIONS

Calponin 3 (H-55) is recommended for detection of Calponin 3 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).

Calponin 3 (H-55) is also recommended for detection of Calponin 3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Calponin 3 siRNA (h): sc-29893, Calponin 3 siRNA (m): sc-29894, Calponin 3 siRNA (r): sc-270444, Calponin 3 shRNA Plasmid (h): sc-29893-SH, Calponin 3 shRNA Plasmid (m): sc-29894-SH, Calponin 3 shRNA Plasmid (r): sc-270444-SH, Calponin 3 shRNA (h) Lentiviral Particles: sc-29893-V, Calponin 3 shRNA (m) Lentiviral Particles: sc-29894-V and Calponin 3 shRNA (r) Lentiviral Particles: sc-270444-V.

Molecular Weight (predicted) of Calponin 3: 36 kDa.

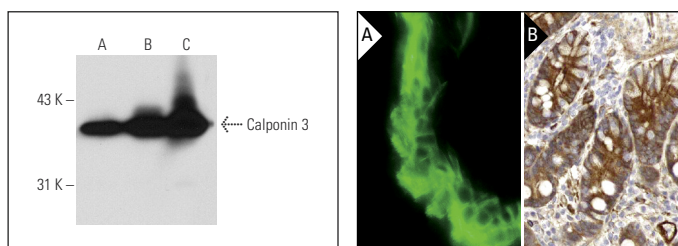
Molecular Weight (observed) of Calponin 3: 37-41 kDa.

Positive Controls: Calponin 3 (m): 293T Lysate: sc-118971, KNRK whole cell lysate: sc-2214 or SK-N-SH cell lysate: sc-2410.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Calponin 3 (H-55): sc-28546. Western blot analysis of Calponin 3 expression in non-transfected 293T: sc-117752 (A), mouse Calponin 3 transfected 293T: sc-118971 (B) and SK-N-SH (C) whole cell lysates.

Calponin 3 (H-55): sc-28546. Immunofluorescence staining of normal mouse skin frozen section showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Appel, S., et al. 2010. h3/Acidic calponin: an actin-binding protein that controls extracellular signal-regulated kinase 1/2 activity in nonmuscle cells. *Mol. Biol. Cell* 21: 1409-1422.
- Chang, K.P., et al. 2011. Identification of PRDX4 and P4HA2 as metastasis-associated proteins in oral cavity squamous cell carcinoma by comparative tissue proteomics of microdissected specimens using iTRAQ technology. *J. Proteome Res.* 10: 4935-4947.
- 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.

RESEARCH USE

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



Try **Calponin 3 (A-2): sc-271188**, our highly recommended monoclonal alternative to Calponin 3 (H-55).