### SANTA CRUZ BIOTECHNOLOGY, INC.

# Calponin 1 (N-15): sc-16604



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 calmodulindependent 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

- Tang, D.C., Kang, H.M., Jin, J.P., Fraser, E.D. and Walsh, M.P. 1996. Structure-function relations of smooth muscle Calponin. The critical role of Serine 175. J. Biol. Chem. 271: 8605-8611.
- Masuda, H., Tanaka, K., Takagi, M., Ohgami, K., Sakamaki, T., Shibata, N. and Takahashi, K. 1996. Molecular cloning and characterization of human non-smooth muscle Calponin. J. Biochem. 120: 415-424.
- Doi, M., Kasuya, H., Weir, B., Cook, D.A. and Ogawa, A. 1997. Reduced expression of Calponin in canine basilar artery after subarachnoid haemorrhage. Acta Neurochir. 139: 77-81.
- Kaneko, T., Amano, M., Maeda, A., Goto, H., Takahashi, K., Ito, M. and Kaibuchi, K. 2000. Identification of Calponin as a novel substrate of Rhokinase. Biochem. Biophys. Res. Commun. 273: 110-116.
- di Gioia, C.R., van de Greef, W.M., Sperti, G., Castoldi, G., Todaro, N., lerardi, C., Pieruzzi, F. and Stella, A. 2000. Angiotensin II increases Calponin expression in cultured rat vascular smooth muscle cells. Biochem. Biophys. Res. Commun. 279: 965-969.

#### CHROMOSOMAL LOCATION

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

#### SOURCE

Calponin 1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Calponin 1 of human origin.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16604 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### APPLICATIONS

Calponin 1 (N-15) 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), 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 1 (N-15) is also recommended for detection of Calponin 1 in additional species, including equine, canine, bovine, porcine and avian.

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: human breast extract: sc-363753.

#### **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluo-rescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

#### **SELECT PRODUCT CITATIONS**

- Wu, X., Zhou, Q., Huang, L., Sun, A., Wang, K., Zou, Y. and Ge, J. 2008. Ageing-exaggerated proliferation of vascular smooth muscle cells is related to attenuation of Jagged1 expression in endothelial cells. Cardiovasc Res. 77: 800-808.
- Smithson, L.J. and Kawaja, M.D. 2009. A comparative examination of biomarkers for olfactory ensheathing cells in cats and guinea pigs. Brain Res. 1284: 41-53.

#### **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.

## MONOS Satisfation Guaranteed

Try Calponin 1 (CALP): sc-58707 or Calponin 1 (SPM169): sc-52992, our highly recommended monoclonal alternatives to Calponin 1 (N-15). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see Calponin 1 (CALP): sc-58707.