SANTA CRUZ BIOTECHNOLOGY, INC.

p-Calponin 1 (Ser 175)-R: sc-16717-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Calponin, a 34 kDa protein, regulates smooth muscle cell contraction and is a marker of smooth muscle cell differ-entiation. 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 Rho-kinase. Biochem. Biophys. Res. Commun. 273: 110-116.
5. Yoshimoto, R., et al. 2000. Proteolysis of acidic Calponin by μ-Calpain. J. Biochem. 128: 1045-1049.
6. di Gioia, C.R., et al. 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 19p13.1; Cnn1 (mouse) mapping to 9 A2-A4.

SOURCE

p-Calponin 1 (Ser 175)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 175 of Calponin 1 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-16717 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.

APPLICATIONS

p-Calponin 1 (Ser 175)-R is recommended for detection of Ser 175 phosphorylated Calponin 1 of 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).

p-Calponin 1 (Ser 175)-R is also recommended for detection of correspondingly phosphorylated Ser on calponin 1 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Calponin 1 siRNA (h): sc-43273.

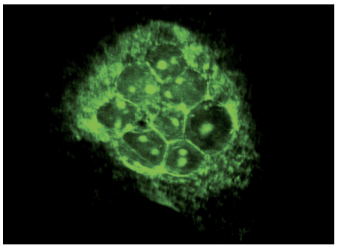
Molecular Weight of p-Calponin 1: 34 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or A-431 + PMA cell lysate: sc-2261.

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) 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.

DATA



p-Calponin 1 (Ser 175)-R: sc-16717-R. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.