

# Calponin 1/2/3 (G-10): sc-136987

## 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.

## SOURCE

Calponin 1/2/3 (G-10) is a mouse monoclonal antibody raised against amino acids 1-297 representing full length Calponin 1 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.

Calponin 1/2/3 (G-10) is available conjugated to agarose (sc-136987 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136987 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136987 PE), fluorescein (sc-136987 FITC), Alexa Fluor® 488 (sc-136987 AF488), Alexa Fluor® 546 (sc-136987 AF546), Alexa Fluor® 594 (sc-136987 AF594) or Alexa Fluor® 647 (sc-136987 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-136987 AF680) or Alexa Fluor® 790 (sc-136987 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Calponin 1/2/3 (G-10) is recommended for detection of Calponin 1 of mouse, rat and human origin, and Calponin 2 and Calponin 3 of human origin by Western Blotting (starting dilution 1:100, 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); may cross-react with Calponin 3 of mouse and rat origin.

Suitable for use as control antibody for Calponin 1/2/3 siRNA (h): sc-43657, Calponin 1 siRNA (m): sc-43274, Calponin 1/2/3 shRNA Plasmid (h): sc-43657-SH, Calponin 1 shRNA Plasmid (m): sc-43274-SH, Calponin 1/2/3 shRNA (h) Lentiviral Particles: sc-43657-V and Calponin 1 shRNA (m) Lentiviral Particles: sc-43274-V.

Molecular Weight of Calponin 1/2/3: 33-36 kDa.

Positive Controls: JEG-3 whole cell lysate: sc-364255.

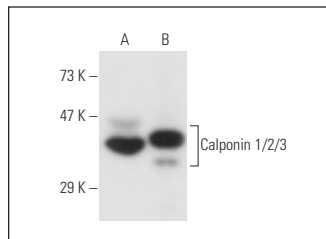
## RESEARCH USE

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

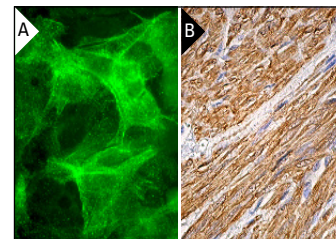
## STORAGE

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

## DATA



Calponin 1/2/3 (G-10): sc-136987. Western blot analysis of Calponin 1/2/3 expression in 293T (A) and JEG-3 (B) whole cell lysates.



Calponin 1/2/3 (G-10): sc-136987. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoskeletal localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells (B).

## SELECT PRODUCT CITATIONS

- Hennenberg, M., et al. 2013. The receptor antagonist picotamide inhibits adrenergic and thromboxane-induced contraction of hyperplastic human prostate smooth muscle. *Am. J. Physiol. Renal Physiol.* 305: F1383-F1390.
- Kunit, T., et al. 2014. Inhibition of smooth muscle force generation by focal adhesion kinase inhibitors in the hyperplastic human prostate. *Am. J. Physiol. Renal Physiol.* 307: F823-F832.
- Hennenberg, M., et al. 2015. Cooperative effects of EGF, FGF, and TGF-β1 in prostate stromal cells are different from responses to single growth factors. *Life Sci.* 123: 18-24.
- Hennenberg, M., et al. 2016. Inhibition of adrenergic and non-adrenergic smooth muscle contraction in the human prostate by the phosphodiesterase 10-selective inhibitor TC-E 5005. *Prostate* 76: 1364-1374.
- Pestell, T.G., et al. 2017. Stromal cyclin D1 promotes heterotypic immune signaling and breast cancer growth. *Oncotarget* 8: 81754-81775.
- Herlemann, A., et al. 2018. Inhibition of smooth muscle contraction and ARF6 activity by the inhibitor for cytohesin GEFs, secinH3, in the human prostate. *Am. J. Physiol. Renal Physiol.* 314: F47-F57.
- Yu, Q., et al. 2018. Inhibition of prostatic smooth muscle contraction by the inhibitor of G protein-coupled receptor kinase 2/3, CMPD101. *Eur. J. Pharmacol.* 831: 9-19.
- Yu, Q., et al. 2018. Inhibition of human prostate smooth muscle contraction by the LIM kinase inhibitors, SR7826 and LIMKi3. *Br. J. Pharmacol.* 175: 2077-2096.
- Walther, S., et al. 2018. Adreno-muscarinic synergy in the male human urinary outflow tract. *NeuroUrol. Urodyn.* 37: 2128-2134.

## PROTOCOLS

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