

# Calponin 1 (CALP): sc-58707

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Calponin 1 (CALP) is a mouse monoclonal antibody raised against crude uterus extract 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 (CALP) is available conjugated to agarose (sc-58707 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-58707 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58707 PE), fluorescein (sc-58707 FITC), Alexa Fluor<sup>®</sup> 488 (sc-58707 AF488), Alexa Fluor<sup>®</sup> 546 (sc-58707 AF546), Alexa Fluor<sup>®</sup> 594 (sc-58707 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-58707 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-58707 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-58707 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

Calponin 1 (CALP) 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), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

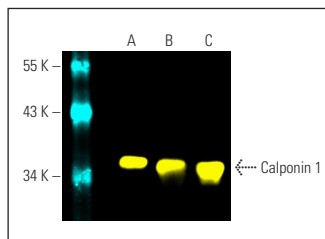
Molecular Weight of Calponin 1: 33-36 kDa.

Positive Controls: human smooth muscle extract: sc-363778, A-10 cell lysate: sc-3806 or human colon extract: sc-363757.

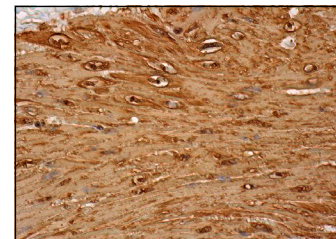
## STORAGE

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

## DATA



Calponin 1 (CALP) Alexa Fluor<sup>®</sup> 488: sc-58707 AF488. Direct fluorescent western blot analysis of Calponin 1 expression in A-10 whole cell lysate (A) and human colon (B) and human smooth muscle (C) tissue extracts. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Cruz Marker<sup>™</sup> Molecular Weight Standards detected with Cruz Marker<sup>™</sup> MW Tag-Alexa Fluor<sup>®</sup> 647: sc-516791.



Calponin 1 (CALP): sc-58707. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells.

## SELECT PRODUCT CITATIONS

- Spector, D.A., et al. 2008. The ROMK potassium channel is present in mammalian urinary tract epithelia and muscle. *Am. J. Physiol. Renal Physiol.* 295: F1658-F1665.
- Jia, B., et al. 2016. GPR30 promotes prostate stromal cell activation via suppression of ER $\alpha$  expression and its downstream signaling pathway. *Endocrinology* 157: 3023-3035.
- Zhang, H.B., et al. 2017. Maintenance of the contractile phenotype in corpus cavernosum smooth muscle cells by Myocardin gene therapy ameliorates erectile dysfunction in bilateral cavernous nerve injury rats. *Andrology* 5: 798-806.
- Ding, Y., et al. 2018. Biomimetic soft fibrous hydrogels for contractile and pharmacologically responsive smooth muscle. *Acta Biomater.* 74: 121-130.
- Li, Y., et al. 2019. MicroRNA-122 promotes endothelial cell apoptosis by targeting XIAP: therapeutic implication for atherosclerosis. *Life Sci.* 232: 116590.
- Kimura, M., et al. 2020. Homeobox A4 suppresses vascular remodeling by repressing YAP/TEAD transcriptional activity. *EMBO Rep.* 21: e48389.
- Aschacher, T., et al. 2021. Telocytes in the human ascending aorta: characterization and exosome-related KLF-4/VEGF-A expression. *J. Cell. Mol. Med.* 25: 9697-9709.
- Wu, J.Y., et al. 2023. Directed differentiation of human iPSCs into mesenchymal lineages by optogenetic control of TGF- $\beta$  signaling. *Cell Rep.* 42: 112509.

## RESEARCH USE

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