

Caldesmon (H-300): sc-15374

BACKGROUND

Caldesmon, Filamin 1, Nebulin and Villin are differentially expressed and regulated Actin binding proteins. Both muscular and non-muscular forms of Caldesmon have been identified and each has been shown to bind to Actin as well as to calmodulin and myosin. Alternative splicing of the gene encoding Caldesmon results in five isoforms. Muscular Caldesmon (isoform 1), also designated high molecular weight Caldesmon or H-Caldesmon (H-CAD), is expressed predominantly on thin filaments in smooth muscle. Non-muscular Caldesmon (isoforms 2-5), also designated low molecular weight Caldesmon or L-Caldesmon (L-CAD), is widely expressed in non-muscle tissues and cells. Filamin 1, which is ubiquitously expressed and exists as a homodimer, functions to crosslink Actin to filaments. Nebulin is a large filamentous protein specific to muscle tissue that may function as a ruler for filament length. Several isoforms of Nebulin are produced by alternative exon usage. Villin is Ca^{2+} -regulated and is the major structural component of the brush border of absorptive cells.

CHROMOSOMAL LOCATION

Genetic locus: CALD1 (human) mapping to 7q33; Cald1 (mouse) mapping to 6 B1.

SOURCE

Caldesmon (H-300) is a rabbit polyclonal antibody raised against amino acids 494-793 mapping at the C-terminus of H-Caldesmon 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.

APPLICATIONS

Caldesmon (H-300) is recommended for detection of H-Caldesmon and L-Caldesmon I and II 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Caldesmon (H-300) is also recommended for detection of H-Caldesmon and L-Caldesmon I and II in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Caldesmon siRNA (h): sc-29880, Caldesmon siRNA (m): sc-29881, Caldesmon shRNA Plasmid (h): sc-29880-SH, Caldesmon shRNA Plasmid (m): sc-29881-SH, Caldesmon shRNA (h) Lentiviral Particles: sc-29880-V and Caldesmon shRNA (m) Lentiviral Particles: sc-29881-V.

Molecular Weight of H-Caldesmon: 90-150 kDa.

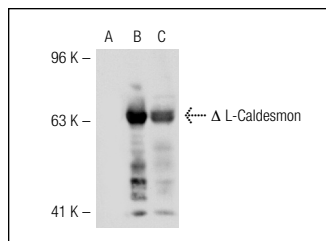
Molecular Weight of L-Caldesmon: 60-80 kDa.

Positive Controls: Caldesmon (m): 293T Lysate: sc-118955 or NIH/3T3 whole cell lysate: sc-2210.

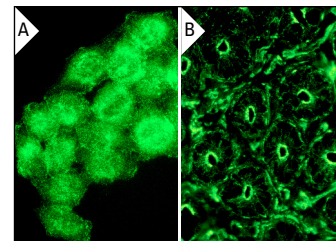
STORAGE

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

DATA



Caldesmon (H-300): sc-15374. Western blot analysis of Caldesmon expression in non-transfected 293T: sc-117752 (A), truncated mouse Caldesmon transfected 293T: sc-118955 (B) and NIH/3T3 (C) whole cell lysates.



Caldesmon (H-300): sc-15374. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (A). Immunofluorescence staining of normal mouse intestine frozen section showing cytoskeletal staining (B).

SELECT PRODUCT CITATIONS

- Shieh, D.B., et al. 2010. Effects of genistein on β -catenin signaling and subcellular distribution of Actin-binding proteins in human umbilical CD105-positive stromal cells. *J. Cell. Physiol.* 223: 423-434.
- Sharma, A.K., et al. 2010. Urinary bladder smooth muscle regeneration utilizing bone marrow derived mesenchymal stem cell seeded elastomeric poly(1,8-octanediol-co-citrate) based thin films. *Biomaterials* 31: 6207-6217.
- Sharma, A.K., et al. 2010. A non-human primate model for urinary bladder regeneration utilizing autologous sources of bone marrow derived mesenchymal stem cells. *Stem Cells*. E-published.
- Nie, S., et al. 2011. Caldesmon regulates actin dynamics to influence cranial neural crest migration in *Xenopus*. *Mol. Biol. Cell* 22: 3355-3365.

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
Satisfaction
Guaranteed

Try **Caldesmon (A-2): sc-271222** or **Caldesmon (C21): sc-58700**, our highly recommended monoclonal alternatives to Caldesmon (H-300).