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[Primary Antibody]

Rabbit Anti-Caldesmon antibody

Catalog Number: SL1589R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Caldesmon
Immunogen:	KLH conjugated synthetic peptide derived from human Caldesmon: 701-798/798
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	IHC-P=1:100-500 IHC-F=1:100-500 IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Rat(predicted:Human,Mouse,Chicken,Dog,Cow,Rabbit)
Predicted MW.:	94kDa
Subcellular Location:	cytoplasmic
Background:	This gene encodes a calmodulin- and actin-binding protein that plays an essential role in the regulation of smooth muscle and nonmuscle contraction. The conserved domain of this protein possesses the binding activities to Ca(2+)-calmodulin, actin, tropomyosin, myosin, and phospholipids. This protein is a potent inhibitor of the actin-tropomyosin activated myosin MgATPase, and serves as a mediating factor for Ca(2+)-dependent inhibition of smooth muscle contraction. Alternative splicing of this gene results in multiple transcript variants encoding distinct isoforms.[provided by RefSeq, Jul 2008]. **Function:** Actin- and myosin-binding protein implicated in the regulation of actomyosin interactions in smooth muscle and nonmuscle cells (could act as a bridge between myosin and actin filaments). Stimulates actin binding of

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	tropomyosin which increases the stabilization of actin filament structure. In muscle tissues, inhibits the actomyosin ATPase by binding to F-actin. This inhibition is attenuated by calcium-calmodulin and is potentiated by tropomyosin. Interacts with actin, myosin, two molecules of tropomyosin and with calmodulin. Also play an essential role during cellular mitosis and receptor capping. Involved in Schwann cell migration during peripheral nerve regeneration. **Subcellular Location:** Cytoplasm, cytoskeleton. Cytoplasm, myofibril. Note=On thin filaments in smooth muscle and on stress fibers in fibroblasts (nonmuscle). **Tissue Specificity:** High-molecular-weight caldesmon (isoform 1) is predominantly expressed in smooth muscles, whereas low-molecular-weight caldesmon (isoforms 2, 3, 4 and 5) are widely distributed in non-muscle tissues and cells. Not expressed in skeletal muscle or heart. **Post-translational modifications:** In non-muscle cells, phosphorylation by CDK1 during mitosis causes caldesmon to dissociate from microfilaments. Phosphorylation reduces caldesmon binding to actin, myosin, and calmodulin as well as its inhibition of actomyosin ATPase activity. Phosphorylation also occurs in both quiescent and dividing smooth muscle cells with similar effects on the interaction with actin and calmodulin and on microfilaments reorganization. CDK1-mediated phosphorylation promotes Schwann cell migration during peripheral nerve regeneration (By similarity). **Similarity:** Belongs to the caldesmon family. **Database links:** **Entrez Gene:** 800 Human **Entrez Gene:** 109624 Mouse **Entrez Gene:** 204926 Rat **Entrez Gene:** 25687 Rat Omim: 114213 Human **SwissProt:** Q05682 Human **SwissProt:** Q8VCQ8 Mouse **SwissProt:** Q05682 Rat **Unigene:** 490203 Human CaldesmonIt is a Binding protein of smooth muscle actin and calmodulin, and is considered to be a type of smooth muscle cellMaker,A Cytoskeleton protein present in smooth muscle or non-smooth muscle cells. It can interact with actin, myosin, tropomyosin and calmodulin, is a Maker of smooth muscle cells, and can be used to determine the origin of uterine Tumour. In colorectal Tumour, it is a Maker for distinguishing fibroblasts and myofibroblasts.

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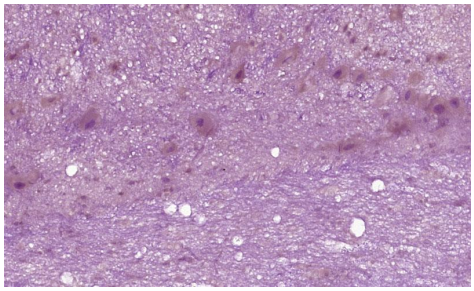
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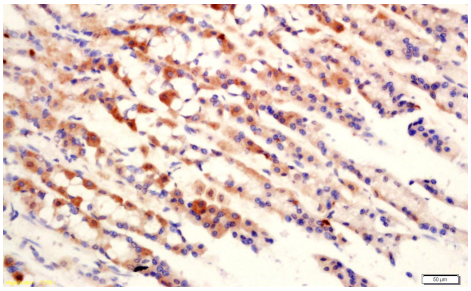
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[VALIDATION IMAGES]



Paraformaldehyde-fixed, paraffin embedded (Rat spinal cord); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Caldesmon) Polyclonal Antibody, Unconjugated (SL1589R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Tissue/cell: Rat stomach tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min;
Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;
Incubation: Anti-Caldesmon Polyclonal Antibody, Unconjugated(SL1589R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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