

Rabbit Caldesmon Polyclonal Antibody | anti-CALD1 antibody

Phospho-Caldesmon (Ser789) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321704	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

Caldesmon; Polyclonal Antibody; Phospho-Caldesmon (Ser789) Antibody; CAD; CALD 1; CALD1; CALD1_HUMAN; Caldesmon 1; Caldesmon 1 Isoform 1; Caldesmon 1 Isoform 2; Caldesmon 1 Isoform 3; Caldesmon 1 Isoform 4; Caldesmon 1 Isoform 5; Caldesmon1; CDM; H CAD; HCAD; L CAD; LCAD; MGC21352; NAG22; anti-CALD1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-Caldesmon (Ser789) antibody detects endogenous levels of Caldesmon only when phosphorylated at Serine 789
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho-and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	538
Applicable Applications for anti-CALD1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Caldesmon around the phosphorylation site of Serine 789
Subcellular Location	Cytoplasm > Cytoskeleton. Cytoplasm > Myofibril. 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.
Predicted Cross Reactivity	Pig, Horse, Sheep, Rabbit, Dog
Similarity	Pig (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%)
Conjugation	Unconjugated
Epitope	Phospho Ser789
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

AAA321704 staining HeLa cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/400 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.



WB (Western Blot)

Western blot analysis of Phospho-Caldesmon (Ser789) expression in various lysates



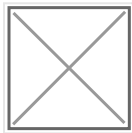
IHC (Immunohistochemistry)

AAA321704 staining human lymph nodes tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)

Western blot analysis of Caldesmon phosphorylation expression in EGF treated HeLa whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



IF (Immunofluorescence)

AAA321704 staining HeLa cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-CALD1 antibody	Description: This gene encodes a calmodulin-and actin-binding protein that plays an essential role in the regulation of smooth muscle and nonmuscle contraction. 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 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 (By similarity). 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: The N-terminal part seems to be a myosin/calmodulin-binding domain, and the C-terminal a tropomyosin/actin/calmodulin-binding domain. These two domains are separated by a central helical region in the smooth-muscle form. Belongs to the caldesmon family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4826657
NCBI GeneID	800
NCBI Accession #	NP_004333.1

NCBI GenBank Nucleotide #	NM_004342.6
UniProt Accession #	Q05682; Q13978; Q13979; Q14741; Q14742; Q9UD91; A8K0X1
Molecular Weight	Observed: 80 kDa Predicted: 94 kDa
NCBI Official Full Name	caldesmon isoform 2
NCBI Official Synonym Full Names	caldesmon 1
NCBI Official Symbol	CALD1
NCBI Official Synonym Symbols	CDM; HCAD; LCAD; H-CAD; L-CAD; NAG22
NCBI Protein Information	caldesmon
UniProt Protein Name	Caldesmon
UniProt Gene Name	CALD1
UniProt Synonym Gene Names	CAD; CDM; CDM

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/caldesmon-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/321704>