



Caldesmon Rabbit mAb

Catalog No	YP-rAb-17863
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IHC,IF,IP,ELISA
Gene Name	CALD1 CAD CDM
Protein Name	Caldesmon
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	IHC 1:200-1:1000; WB 1:2000-1:10000; IF 1:200-1:1000; ELISA 1:5000-1:20000; IP 1:50-1:200; Note: For IHC, we suggest antigen retrieval with TE buffer pH 9.0
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15 ° C to -25 ° C/1 year(Do not lower than -25 ° C)
Synonyms	Caldesmon;CALD1 ; CAD ; CDM ; Caldesmon ; CDM;CALD1 CAD CDM
Observed Band	70kD
Calculated Molecular Weight	93kD
Cell Pathway	Cytoplasm
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.
Function	Domain: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.,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.,PTM:In non-muscle





cells, phosphorylation by CDC2 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. similarity: Belongs to the caldesmon family. subcellular location: 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.

Background

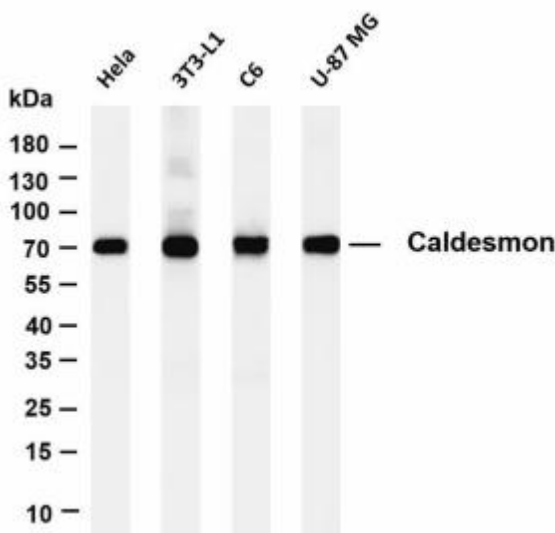
This gene encodes a calmodulin- and actin-binding protein that plays an essential role in the regulation of smooth muscle and nonmuscle contraction. The conserved domain of this protein possesses the binding activities to Ca^{2+} -calmodulin, actin, tropomyosin, myosin, and phospholipids. This protein 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]

matters needing attention

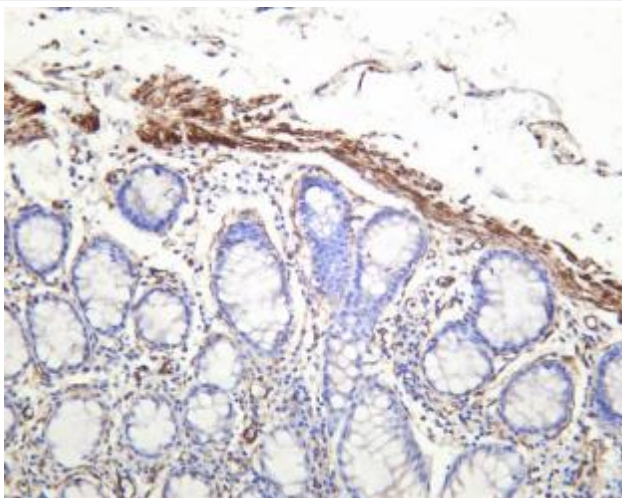
Avoid repeated freezing and thawing!

Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

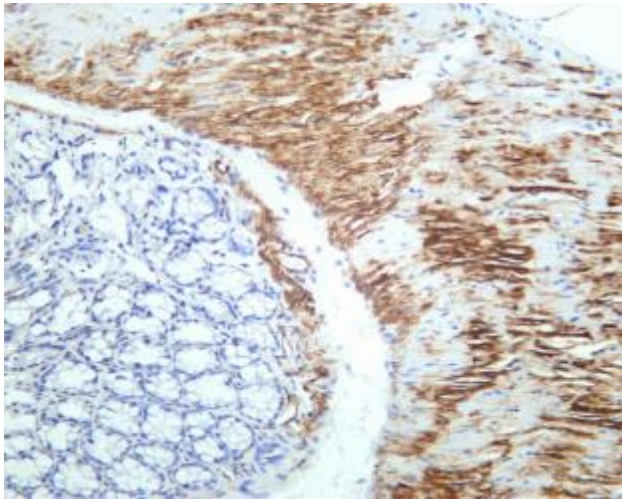


Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-Caldesmon antibody. The HRP-conjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1: HeLa Lane 2: 3T3-L1 Lane 3: C6 Lane 4: U-87 MG Predicted band size: 93kDa Observed band size: 70kDa

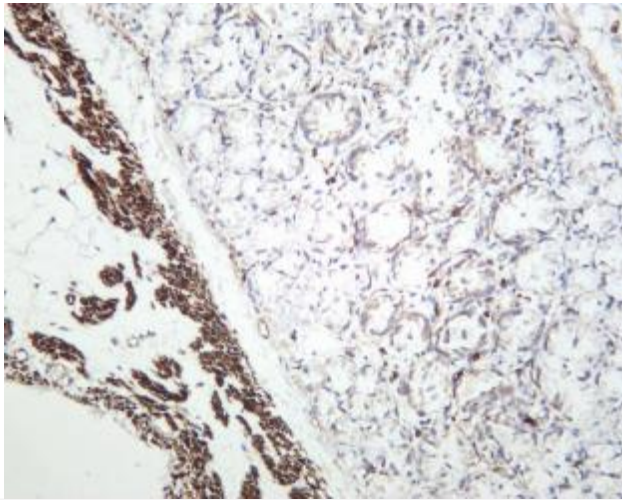


Human colon was stained with anti-Caldesmon rabbit antibody

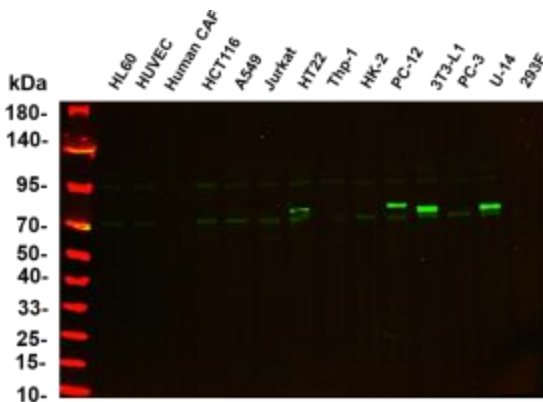




Mouse colon was stained with anti-Caldesmon rabbit antibody



Rat colon was stained with anti-Caldesmon rabbit antibody



Various whole cell lysates were separated by 4-20% SDS-PAGE, and the primary antibody was used at 4 °C, over night with a 1:5000 dilution. The Dylight 800-conjugated Goat anti-Rabbit antibody (Cat:RS23920) was used to detect the antibody. Lane1: HL60 - Human promyelocytic leukemia cell Lane2: HUVEC - Human umbilical vein endothelial cell Lane3: Human CAF - Human cancer-associated fibroblast Lane4: HCT116 - Human colorectal carcinoma Lane5: A549 - Human lung carcinoma Lane6: Jurkat - Human T lymphocyte leukemia Lane7: HT22 - Mouse hippocampal neuronal Lane8: Thp-1 - Human monocytic leukemia Lane9: HK-2 - Human proximal tubular epithelial Lane10: PC-12 - Rat adrenal pheochromocytoma Lane11: 3T3-L1 - Mouse embryonic fibroblast Lane12: PC-3 - Human prostate adenocarcinoma Lane13: U-14 - Mouse cervical carcinoma Lane14: 293F - HEK293 derivative, adapted for suspension culture Predicted band size: 93kDa Observed band size: 70kDa

