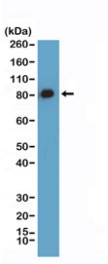
Caldesmon Antibody / CALD1 Cell Adhesion and Structural Connectivity Protein Antibody [clone RM396] (R20412)

Catalog No.	Formulation	Size
R20412-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

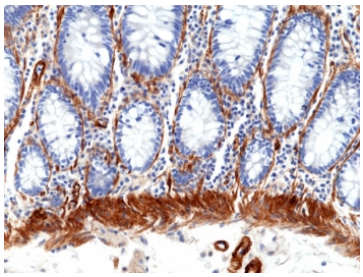
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM396
Purity	Protein A purified from animal origin-free supernatant
UniProt	Q05682
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE): 1:100-1:200 Western blot: 1:100-1:1000
Limitations	This recombinant Caldesmon antibody is available for research use only.



Caldesmon Antibody / CALD1 Cell Adhesion and Structural Connectivity Protein Antibody. Western blot analysis of Caldesmon (CALD1) in human HeLa cell lysate. Lane 1: human HeLa cell lysate. A band is detected at approximately 70-80 kDa, consistent with the predicted molecular weight of Caldesmon / CALD1 and representing the lower molecular weight non-muscle isoform associated with cytoskeletal linkage and structural connectivity. CALD1 is known to produce multiple isoforms, with higher molecular weight forms typically observed at approximately 120-150 kDa in smooth muscle cells. The observed banding pattern reflects isoform-dependent expression of caldesmon in non-muscle cells, supporting its role in linking actin cytoskeleton networks to adhesion structures and maintaining structural connectivity.



Caldesmon Antibody / CALD1 Cell Adhesion and Structural Connectivity Protein Antibody. Immunohistochemistry analysis of Caldesmon (CALD1) in human colon tissue. FFPE human colon stained with Caldesmon Antibody at 1:100 demonstrates strong HRP-DAB brown cytoplasmic staining in smooth muscle cells of the muscularis layer and along the base of the mucosa. The staining highlights elongated, organized cell layers with dense filament-associated cytoplasmic signal consistent with cytoskeletal linkage at sites of structural connectivity and tissue anchoring. Epithelial cells lining the crypts show minimal staining, supporting localization of CALD1 to cytoskeletal networks that contribute to adhesion-associated structural integrity.

Description

Caldesmon (CALD1) plays a role in maintaining structural connectivity between the cytoskeleton and adhesion complexes, supporting stable cell-cell and cell-matrix interactions. Caldesmon Antibody / CALD1 Cell Adhesion and Structural Connectivity Protein Antibody is used to detect CALD1 in studies focused on how cytoskeletal organization contributes to cellular attachment and tissue cohesion.

Cell adhesion depends on coordinated interactions between actin filament networks and adhesion structures such as focal adhesions and junctional complexes. Caldesmon contributes to this coordination by stabilizing actin filaments at sites of attachment, ensuring that mechanical forces are effectively transmitted across cells and tissues. This function supports both structural stability and communication between cells within organized tissues.

Caldesmon Antibody, also referred to as CALD1 antibody or h-caldesmon antibody, is particularly useful for studying the interface between cytoskeletal systems and adhesion machinery. Caldesmon localizes to regions where actin filaments anchor to adhesion complexes, contributing to the integrity and organization of these connections. Its presence at these sites reflects a role in maintaining structural continuity between intracellular and extracellular environments.

At the molecular level, CALD1 regulates actin filament interactions in a manner that supports both stable attachment and controlled remodeling. This allows cells to maintain strong adhesion while retaining the ability to reorganize their cytoskeleton when necessary, such as during tissue remodeling or changes in mechanical environment. The balance between stability and adaptability is a defining feature of CALD1 function in adhesion contexts.

Cell adhesion and structural connectivity are essential for maintaining tissue integrity, coordinating multicellular organization, and enabling communication between cells. Caldesmon contributes to these processes by ensuring that cytoskeletal networks remain properly linked to adhesion structures and capable of transmitting mechanical and structural information.

Due to its role in linking cytoskeletal organization with adhesion systems, Caldesmon Antibody provides a reliable tool for detecting CALD1 expression in studies focused on cell attachment, tissue architecture, and structural connectivity. Its association with adhesion-related cytoskeletal networks supports investigation of how cells maintain stable yet adaptable connections within tissues.

Application Notes

The stated application concentrations are suggested starting points. Titration of the Caldesmon Antibody / CALD1 Cell Adhesion and Structural Connectivity Protein Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A peptide corresponding to human caldesmon was used as the immunogen for the Caldesmon Antibody / CALD1 Cell Adhesion and Structural Connectivity Protein Antibody.

Storage

Store the recombinant Caldesmon antibody at -20oC.

Alternate Names

Caldesmon antibody, CALD1 antibody, Caldesmon adhesion protein antibody, CALD1 cytoskeletal linkage antibody, h-Caldesmon antibody, Caldesmon structural connectivity antibody

Copyright © NSJ Bioreagents. All rights reserved.