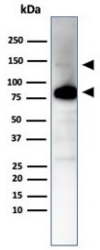
CAD Antibody / Caldesmon CALD1 Actin Cytoskeleton Organization Antibody [clone CALD1/7024R] (V9428)

Catalog No.	Formulation	Size
V9428-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9428-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9428SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

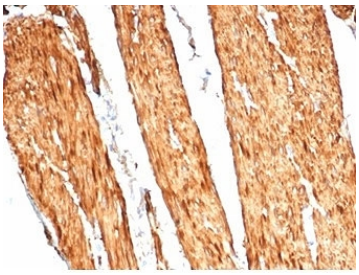
Recombinant RABBIT MONOCLONAL

Bulk quote request

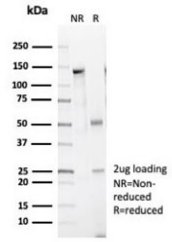
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	CALD1/7024R
Purity	Protein A/G affinity
UniProt	Q05682
Localization	Cytoplasm
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This CAD antibody is available for research use only.



CAD Antibody / Caldesmon CALD1 Actin Cytoskeleton Organization Antibody. Western blot analysis of Caldesmon (CALD1) in human ovary tissue lysate. Lane 1: human ovary tissue 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. Additional higher molecular weight bands may be observed at approximately 120-150 kDa corresponding to the smooth muscle-associated h-caldesmon isoform. CALD1 is known to produce multiple isoforms with distinct migration patterns, and the observed banding profile reflects isoform-dependent differences associated with cytoskeletal organization in muscle and non-muscle cells.



CAD Antibody / Caldesmon CALD1 Actin Cytoskeleton Organization Antibody. Immunohistochemistry analysis of Caldesmon (CALD1) in human colon tissue. FFPE human colon stained with CAD Antibody, clone CALD1/7024R, demonstrates strong HRP-DAB brown cytoplasmic staining in smooth muscle cells of the muscularis layer. The staining highlights elongated, spindle-shaped cells with dense filamentous cytoplasmic signal consistent with organized actin cytoskeleton structures and contractile filament bundles. Surrounding epithelial and stromal compartments show minimal staining, supporting localization of CALD1 to cytoskeletal networks within smooth muscle cells. Heat-induced epitope retrieval was performed using Tris-EDTA buffer at pH 9.



SDS-PAGE analysis of purified, BSA-free recombinant CAD antibody (clone CALD1/7024R) as confirmation of integrity and purity.

Description

Caldesmon (CALD1) is a core structural regulator of the actin cytoskeleton, functioning to organize filament networks and maintain cellular architecture. CAD Antibody / Caldesmon CALD1 Actin Cytoskeleton Organization Antibody is used to detect Caldesmon (CALD1), clearly distinguishing it from the CAD enzyme involved in nucleotide biosynthesis, and enabling focused study of cytoskeletal organization and actin filament stability.

Unlike proteins primarily associated with contractile force generation, caldesmon plays a broader role in defining cytoskeletal structure by binding along actin filaments and stabilizing their organization into higher-order networks. This actin cytoskeleton organization function is essential for maintaining cell shape, mechanical integrity, and spatial organization of intracellular components.

CAD Antibody, also referred to as Caldesmon antibody or CALD1 antibody, is widely used to investigate how actin filament networks are assembled and maintained. Caldesmon localizes along stress fibers and filament bundles, contributing to the formation of structured cytoskeletal arrays that support cellular architecture. Its presence along these filaments provides a framework for understanding how cells maintain organized internal structure.

At the molecular level, CALD1 regulates actin filament stability and interactions with associated proteins, influencing filament assembly and disassembly dynamics. This regulatory role allows cells to maintain a balance between structural stability and adaptability, enabling controlled cytoskeletal remodeling in response to environmental and mechanical cues.

In non-muscle cells, caldesmon plays a particularly important role in coordinating cytoskeletal organization during processes such as migration and adhesion. By stabilizing actin networks while allowing selective remodeling, CALD1 supports dynamic cellular behaviors without compromising overall structural integrity. This makes it a key regulator of cytoskeletal organization rather than purely contractile function.

Due to its central role in organizing actin filament networks and maintaining cytoskeletal structure, CAD Antibody provides a reliable tool for detecting CALD1 expression in studies focused on cell morphology, structural organization, and cytoskeletal dynamics. Its strong association with actin cytoskeleton organization supports investigation of how cells maintain and reorganize their internal architecture.

Application Notes

Optimal dilution of the CAD Antibody / Caldesmon CALD1 Actin Cytoskeleton Organization Antibody should be

determined by the researcher.

Immunogen

Recombinant human full-length Caldesmon protein was used as the immunogen for the CAD Antibody / Caldesmon CALD1 Actin Cytoskeleton Organization Antibody.

Storage

Aliquot the recombinant CAD antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Caldesmon antibody, CALD1 antibody, Caldesmon cytoskeleton antibody, CALD1 actin binding protein antibody, h-Caldesmon antibody, Caldesmon filament organization antibody