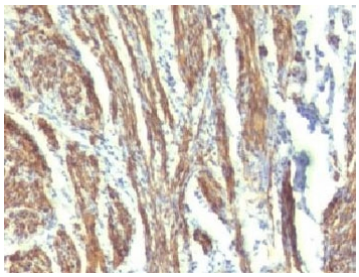
CAD Antibody / Caldesmon CALD1 Cytoskeletal Signaling Regulatory Protein Antibody [clone CDSM-3] (V7159)

Catalog No.	Formulation	Size
V7159-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7159-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7159SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7159IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	CDSM-3
Purity	Protein G affinity chromatography
UniProt	Q05682
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE): 0.5-1ug/ml for 30 min at RT (1) Prediluted IHC only format: incubate for 30 min at RT (2)
Limitations	This CAD antibody is available for research use only.



CAD Antibody / Caldesmon CALD1 Cytoskeletal Signaling Regulatory Protein Antibody. Immunohistochemistry analysis of Caldesmon (CALD1) in human uterus tissue. FFPE human uterus stained with CAD Antibody, clone CDSM-3, demonstrates strong HRP-DAB brown cytoplasmic staining in smooth muscle cells of the myometrium. The staining highlights elongated, spindle-shaped cells arranged in interlacing bundles, consistent with cytoskeletal organization and signaling-regulated contractile structures. Surrounding stromal and epithelial compartments show minimal staining, supporting localization of CALD1 to smooth muscle-associated cytoskeletal networks involved in signaling-dependent structural regulation.

Description

Caldesmon (CALD1) acts as a regulatory link between intracellular signaling pathways and cytoskeletal organization, translating biochemical signals into structural and mechanical changes. CAD Antibody / Caldesmon CALD1 Cytoskeletal Signaling Regulatory Protein Antibody is used to detect Caldesmon (CALD1), clearly distinguishing it from the CAD enzyme involved in nucleotide biosynthesis, and enabling focused study of signaling-dependent cytoskeletal regulation.

CALD1 plays a central role in calcium-calmodulin signaling, where changes in intracellular calcium levels regulate its interaction with actin and myosin. This signaling-dependent regulation allows caldesmon to modulate cytoskeletal tension and contractile behavior in response to physiological stimuli. As a result, CALD1 serves as a mediator that connects signaling events with mechanical output.

CAD Antibody, also referred to as Caldesmon antibody or CALD1 antibody, is particularly valuable for studying how signaling pathways influence cytoskeletal organization. Caldesmon responds to signaling inputs by altering its binding properties and regulatory activity, enabling dynamic adjustment of cytoskeletal structure. This makes it a key component of signaling-driven structural adaptation.

In addition to calcium signaling, CALD1 is subject to phosphorylation by kinases that regulate cytoskeletal dynamics and cellular responses to growth and stress signals. These modifications can change caldesmonÃ¢Â€Â™s interaction with actin filaments, influencing filament stability and contractile activity. Through these mechanisms, CALD1 integrates multiple signaling pathways to coordinate cytoskeletal behavior.

The signaling role of caldesmon extends to non-muscle cells, where cytoskeletal remodeling is essential for processes such as migration, adhesion, and morphological change. By linking signaling pathways to actin filament regulation, CALD1 enables cells to adapt their structure and mechanical properties in response to changing conditions.

Due to its role as a signaling-responsive regulator of cytoskeletal organization, CAD Antibody provides a reliable tool for detecting CALD1 expression in studies focused on cellular signaling, mechanical regulation, and structural adaptation. Its involvement in signaling-dependent cytoskeletal control supports investigation of how cells coordinate biochemical signals with physical behavior.

Application Notes

Titering of the CAD Antibody / Caldesmon CALD1 Cytoskeletal Signaling Regulatory Protein Antibody may be required for optimal performance.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 10-20 min followed by cooling at RT for 20 min.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant full-length human protein was used as the immunogen for the CAD Antibody / Caldesmon CALD1 Cytoskeletal Signaling Regulatory Protein Antibody.

Storage

Store the CAD antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Caldesmon antibody, CALD1 antibody, Caldesmon signaling protein antibody, CALD1 cytoskeletal regulator antibody, h-Caldesmon antibody, Caldesmon actin signaling antibody

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