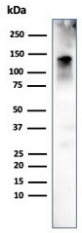
CAD Antibody Clone h-CALD / Caldesmon CALD1 Smooth Muscle Marker Antibody [clone h-CALD] (V2940)

Catalog No.	Formulation	Size
V2940-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2940-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2940SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2940IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

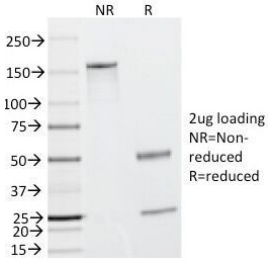
Citations (9)

Bulk quote request

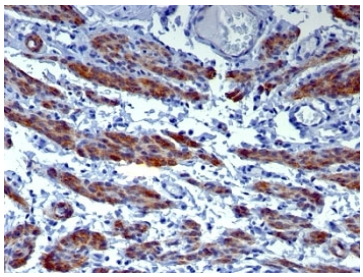
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	h-CALD
Purity	Protein G affinity chromatography
UniProt	Q05682
Localization	Cytoplasmic
Applications	Flow Cytometry : 1-2ug/10^6 cells Immunofluorescence : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 1-2ug/ml
Limitations	This CAD antibody is available for research use only.



CAD Antibody Clone h-CALD / Caldesmon CALD1 Smooth Muscle Marker Antibody for WB. Western blot analysis of human ovary tissue lysate using CAD Antibody Clone h-CALD. Lane 1: human ovary tissue lysate. A band is detected at approximately 120-150 kDa, consistent with the predicted molecular weight of Caldesmon / CALD1 and reflecting the high molecular weight smooth muscle isoform. Caldesmon is known to produce multiple isoforms, with lower molecular weight forms typically observed at approximately 70-80 kDa in non-muscle cells, while the higher molecular weight h-caldesmon isoform predominates in smooth muscle tissues. The observed band pattern aligns with the known biology of CALD1 isoform expression and smooth muscle-associated cytoskeletal organization.



SDS-PAGE Analysis of Purified, BSA-Free CAD Antibody (clone h-CALD). Confirmation of Integrity and Purity of the Antibody.



CAD Antibody Clone h-CALD / Caldesmon CALD1 Smooth Muscle Marker Antibody. Immunohistochemistry analysis of Caldesmon (CALD1) in human uterus tissue. Formalin-fixed, paraffin-embedded human uterus stained with CAD Antibody Clone h-CALD, a mouse monoclonal antibody, demonstrates strong HRP-DAB brown cytoplasmic staining in smooth muscle cells of the myometrium. The staining highlights elongated spindle-shaped smooth muscle cells with filamentous cytoplasmic localization consistent with actin-associated cytoskeletal organization. Surrounding stromal and epithelial cells show minimal staining, supporting the specificity of caldesmon as a smooth muscle marker.

Description

Caldesmon (CALD1) is an actin- and myosin-binding regulatory protein that plays a central role in smooth muscle contraction and cytoskeletal organization. CAD Antibody Clone h-CALD is developed to detect this cytoplasmic protein, anchoring the CAD antibody naming convention to Caldesmon rather than unrelated CAD enzymes, and enabling clear identification of smooth muscle-associated cytoskeletal structures.

CAD Antibody Clone h-CALD represents a well-characterized clone that has been utilized in numerous peer-reviewed studies investigating caldesmon expression and smooth muscle biology. This clone h-CALD antibody serves as a reference reagent in the literature, enabling consistent detection of CALD1 across independent experimental systems and supporting reproducibility in studies of cytoskeletal organization, muscle differentiation, and tumor pathology. Caldesmon antibody, also referred to as CALD1 antibody or smooth muscle caldesmon antibody, is widely used to evaluate actin-associated filament organization and smooth muscle lineage features in complex biological samples.

CAD Antibody Clone h-CALD recognizes CALD1, also known as smooth muscle caldesmon or h-caldesmon, a well-established marker of differentiated smooth muscle phenotype. Expression of caldesmon is prominent in vascular smooth muscle, gastrointestinal musculature, and myoepithelial cell populations, where it contributes to contractile function and stabilization of actin filaments. The consistent cytoplasmic staining pattern observed with clone h-CALD antibody reflects the filamentous organization of the actin cytoskeleton and supports clear identification of smooth muscle cells relative to surrounding stromal or epithelial components.

At the molecular level, CALD1 produces multiple isoforms, including high molecular weight caldesmon (h-caldesmon), which is enriched in differentiated smooth muscle cells, and lower molecular weight isoforms that are expressed in non-muscle cells. CAD Antibody Clone h-CALD supports detection of these biologically relevant isoforms, enabling

investigation of isoform-dependent differences in cytoskeletal regulation and contractile function. The high molecular weight isoform is closely associated with mature smooth muscle phenotype, while smaller isoforms contribute to broader cellular structural dynamics.

Due to its extensive use in published studies and consistent performance across experimental systems, CAD Antibody Clone h-CALD provides a reliable and literature-supported tool for detecting CALD1 expression in research focused on tissue morphology, tumor classification, and cytoskeletal dynamics. Its reproducible staining characteristics and strong association with smooth muscle biology make clone h-CALD antibody particularly valuable for studies requiring a well-established reference reagent for caldesmon detection.

Application Notes

Optimal dilution of the CAD Antibody Clone h-CALD / Caldesmon CALD1 Smooth Muscle Marker Antibody should be determined by the researcher.

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

Crude human uterus extract was used as the immunogen for the CAD Antibody Clone h-CALD / Caldesmon CALD1 Smooth Muscle Marker 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, Smooth muscle caldesmon antibody, h-Caldesmon antibody, CALD1 protein antibody, Caldesmon cytoskeletal marker antibody