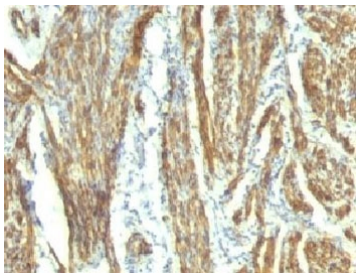
CAD Antibody / Caldesmon CALD1 Tumor Differentiation Marker Antibody [clone CALD1/820 + h-CALD] (V2943)

Catalog No.	Formulation	Size
V2943-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2943-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2943SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2943IHC-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	CALD1/820 + h-CALD
Purity	Protein G affinity chromatography
UniProt	Q05682
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE) : 0.25-0.5ug/ml for 30 min at RT
Limitations	This CAD antibody cocktail is available for research use only.



CAD Antibody / Caldesmon CALD1 Tumor Differentiation Marker Antibody. Immunohistochemistry analysis of Caldesmon (CALD1) in human uterus tissue. FFPE human uterus stained with CAD Antibody, clones CALD1/820 and h-CALD, demonstrates strong HRP-DAB brown cytoplasmic staining in smooth muscle cells of the myometrium. The staining highlights interlacing bundles of elongated, spindle-shaped cells consistent with smooth muscle differentiation and contractile cytoskeletal organization. Surrounding stromal and epithelial cells show minimal staining, supporting the role of CALD1 as a tumor differentiation marker associated with smooth muscle lineage and cellular origin.

Description

Caldesmon (CALD1) functions as a lineage-associated marker that reflects smooth muscle differentiation and cellular origin in tumor biology. CAD Antibody / Caldesmon CALD1 Tumor Differentiation Marker Antibody is used to detect Caldesmon (CALD1), clearly distinguishing it from the unrelated CAD enzyme, and enabling focused investigation of tumor differentiation and lineage identity.

In tumor systems, CALD1 expression is strongly associated with cells that retain smooth muscle characteristics, making it a valuable indicator of lineage fidelity. Tumors derived from or exhibiting smooth muscle differentiation frequently maintain caldesmon expression, whereas epithelial tumors and poorly differentiated malignancies often show reduced or absent expression. This tumor differentiation marker function provides a molecular basis for distinguishing tumor types based on lineage origin.

CAD Antibody, also referred to as Caldesmon antibody or CALD1 antibody, is widely used in studies examining tumor classification and cellular origin. Caldesmon expression provides insight into whether tumor cells retain contractile and cytoskeletal features characteristic of smooth muscle lineage. This association between CALD1 expression and lineage identity is particularly valuable when evaluating tumors with overlapping morphology.

Loss or alteration of CALD1 expression is often associated with dedifferentiation and increased cellular plasticity, reflecting a shift away from stable, contractile phenotypes toward more proliferative or invasive states. This relationship highlights the role of caldesmon as a marker of differentiation status and tumor progression.

In addition to tumor cells, caldesmon is expressed in stromal components such as myofibroblasts, which contribute to tumor architecture and microenvironment remodeling. These cells exhibit contractile features and express CALD1 as part of their cytoskeletal machinery, reinforcing its role as a marker of structurally active cell populations within tumors.

Due to its strong association with lineage identity and differentiation status, CAD Antibody provides a reliable tool for detecting CALD1 expression in studies focused on tumor biology, classification, and cellular origin. Its role as a tumor differentiation marker supports investigation of how tumors retain or lose lineage-specific characteristics.

Application Notes

Optimal dilution of the CAD Antibody / Caldesmon CALD1 Tumor Differentiation 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

Recombinant full-length human protein (CALD1/820) and crude human uterus extract (h-CALD) were used as the immunogen for the CAD Antibody / Caldesmon CALD1 Tumor Differentiation Marker Antibody.

Storage

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

Alternate Names

Caldesmon antibody, CALD1 antibody, Caldesmon tumor marker antibody, CALD1 smooth muscle tumor antibody, h-Caldesmon antibody, Caldesmon lineage marker antibody

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