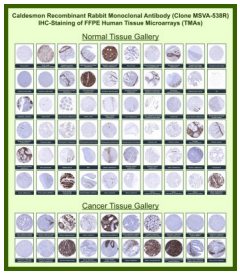
Caldesmon Antibody for IHC / CALD1 Immunohistochemistry Antibody [clone MSVA-538R] (V6134)

Catalog No.	Formulation	Size
V6134-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6134-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-538R
UniProt	Q05682
Localization	Cytoplasm, Cytoskeleton, Myofibril, Stress fiber
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This CALD1/Caldesmon antibody is available for research use only.



Caldesmon Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Caldesmon / CALD1 in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant rabbit monoclonal Caldesmon antibody clone MSVA-538R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates strong cytoplasmic localization in smooth muscle cell populations, including myometrium, vascular walls, and gastrointestinal muscularis, highlighting spindle-shaped cells with filamentous staining patterns. Within tumor tissue microarrays, positive staining is retained in smooth muscle-derived tumors such as leiomyoma and leiomyosarcoma, while most epithelial and non-muscle tumors show minimal to no staining. Evaluation across large TMA panels enables direct comparison of CALD1 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported CALD1 expression profiles in the Human Protein Atlas, supporting its use as a smooth muscle differentiation marker in tissue-based studies.

Description

Caldesmon (CALD1) is an actin- and myosin-binding regulatory protein that functions as a key marker of smooth muscle differentiation and cytoskeletal organization. Caldesmon Antibody for IHC / CALD1 Immunohistochemistry Antibody (clone MSVA-538R) is optimized for immunohistochemistry-based detection of CALD1 in formalin-fixed, paraffin-embedded tissues, where it produces distinct cytoplasmic staining of smooth muscle cells and highlights contractile filament structures within intact tissue architecture.

Caldesmon Antibody for IHC / CALD1 Immunohistochemistry Antibody (clone MSVA-538R) has been evaluated across a wide range of human tissue microarray (TMA) samples, demonstrating consistent and reproducible staining across multiple normal and cancer tissue types. Caldesmon antibody, also referred to as CALD1 antibody or h-caldesmon antibody, shows strong cytoplasmic staining in vascular smooth muscle, myometrium, gastrointestinal muscularis layers, and myoepithelial cells. In IHC staining applications, this pattern is characterized by elongated, spindle-shaped cells with filamentous cytoplasmic localization, supporting clear visualization of smooth muscle architecture in FFPE sections.

This Caldesmon Antibody for IHC / CALD1 Immunohistochemistry Antibody is uniquely positioned as a TMA-validated reagent for tissue-based detection of smooth muscle differentiation, enabling reliable interpretation in histological and diagnostic research settings. The recombinant rabbit monoclonal clone MSVA-538R antibody provides uniform staining intensity and low non-specific background, supporting consistent performance across diverse FFPE tissue specimens. In cancer tissue microarrays, caldesmon staining is typically retained in smooth muscle-derived tumors such as leiomyomas and leiomyosarcomas, while epithelial and non-muscle tumors generally lack strong cytoplasmic staining, supporting its role in lineage identification.

At the biological level, CALD1 expression is associated with differentiated smooth muscle phenotype and is coordinated with cytoskeletal remodeling and contractile function. High molecular weight caldesmon isoforms are enriched in mature smooth muscle cells and contribute to stable actin filament interactions, while lower molecular weight isoforms are less prominent in tissue-based IHC staining. Immunohistochemistry using Caldesmon Antibody for IHC (clone MSVA-538R) enables direct visualization of these expression patterns within preserved tissue morphology.

Due to its strong performance in immunohistochemistry and extensive validation using human tissue microarrays, Caldesmon Antibody for IHC / CALD1 Immunohistochemistry Antibody (clone MSVA-538R) provides a reliable tool for detecting CALD1 expression in studies focused on tissue morphology, tumor classification, and smooth muscle biology. Its robust cytoplasmic staining pattern, clear smooth muscle specificity, and reproducibility across TMA datasets make it well suited for evaluating smooth muscle differentiation in both normal and pathological specimens.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the Caldesmon Antibody for IHC / CALD1 Immunohistochemistry Antibody should be determined by the researcher.

2. This CALD1/Caldesmon 1 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

Recombinant human full-length CALD1 protein was used as the immunogen for the Caldesmon Antibody for IHC / CALD1 Immunohistochemistry Antibody.

Storage

CALD1/Caldesmon antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

Caldesmon IHC antibody, CALD1 immunohistochemistry antibody, Caldesmon tissue staining antibody, h-Caldesmon IHC antibody, Smooth muscle caldesmon antibody IHC, CALD1 FFPE antibody