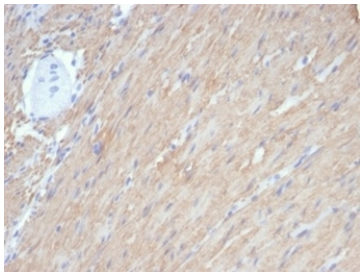
CALD1 Antibody / Caldesmon Gene Expression Regulatory Protein Antibody [clone rCALD1/7266] (V9402)

Catalog No.	Formulation	Size
V9402-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9402-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9402SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

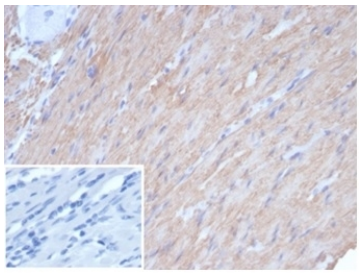
Recombinant | MOUSE MONOCLONAL

Bulk quote request

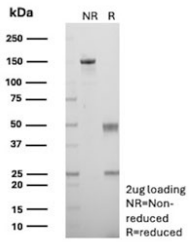
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rCALD1/7266
Purity	Protein A/G affinity
UniProt	Q05682
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This CALD1 antibody is available for research use only.



CALD1 Antibody / Caldesmon Gene Expression Regulatory Protein Antibody. Immunohistochemistry analysis of Caldesmon (CALD1) in human smooth muscle tissue. FFPE human smooth muscle stained with CALD1 Antibody, clone rCALD1/7266, demonstrates strong HRP-DAB brown cytoplasmic staining in elongated smooth muscle cells. The staining highlights uniform, organized cellular architecture consistent with transcriptionally regulated expression of CALD1 in differentiated cell populations. The consistent cytoplasmic signal across aligned muscle fibers supports its association with gene expression programs linked to stable cellular phenotype. Heat-induced epitope retrieval was performed using Tris-EDTA buffer at pH 9.



CALD1 Antibody / Caldesmon Gene Expression Regulatory Protein Antibody. Immunohistochemistry analysis of Caldesmon (CALD1) in human smooth muscle tissue. FFPE human smooth muscle stained with CALD1 Antibody, clone rCALD1/7266, demonstrates strong HRP-DAB brown cytoplasmic staining in elongated smooth muscle cells arranged in parallel bundles. The uniform staining pattern is consistent with transcriptionally regulated CALD1 expression in differentiated cell populations. Inset: negative control using PBS in place of the primary antibody shows absence of brown signal, confirming specificity of staining. Heat-induced epitope retrieval was performed using Tris-EDTA buffer at pH 9.



SDS-PAGE analysis of purified, BSA-free recombinant CALD1 antibody (clone rCALD1/7266) as confirmation of integrity and purity.

Description

Caldesmon (CALD1) is a cytoskeletal-associated protein whose expression is tightly regulated at the transcriptional level and reflects underlying gene expression programs that define cellular identity. CALD1 Antibody / Caldesmon Gene Expression Regulatory Protein Antibody is used to detect CALD1 in studies focused on how transcriptional control mechanisms coordinate structural protein expression with cellular phenotype.

Unlike structural descriptions that focus on caldesmonÃ¢Â€Â™s role within filament systems, this perspective emphasizes how CALD1 expression itself is regulated as part of broader gene expression networks. CALD1 transcription is influenced by signaling pathways that govern differentiation, lineage specification, and cellular state transitions, making it a responsive marker of transcriptional activity linked to structural specialization. Changes in CALD1 expression levels often reflect upstream regulatory events rather than purely structural changes, positioning it as an indicator of gene expression status.

CALD1 Antibody, also referred to as Caldesmon antibody or h-caldesmon antibody, is particularly valuable for examining how cytoskeletal protein expression is coordinated with transcriptional programs. In many biological systems, CALD1 expression increases as cells adopt more defined and stable phenotypes, while reduced expression is associated with proliferative or less differentiated states. This relationship highlights its utility as a readout of transcriptionally driven cellular identity rather than simply a marker of cytoskeletal presence.

At the molecular level, regulation of CALD1 gene expression involves integration of transcription factors and signaling pathways that respond to environmental and developmental cues. These regulatory mechanisms ensure that caldesmon is expressed at appropriate levels to support the structural and functional requirements of the cell. This coordination between gene expression and structural protein availability is essential for maintaining cellular consistency and functional specialization.

In developmental and physiological contexts, CALD1 expression patterns are dynamically controlled, reflecting changes in gene expression programs during tissue formation, remodeling, and adaptation. Its transcriptional regulation allows cells to modulate cytoskeletal composition in response to shifting functional demands, linking gene expression directly to structural organization.

Due to its strong association with transcriptional regulation and gene expression-driven cellular identity, CALD1 Antibody provides a reliable tool for detecting caldesmon in studies focused on gene expression, regulatory networks, and phenotype determination. Its expression profile supports investigation of how transcriptional programs govern structural

protein expression and define cellular state.

Application Notes

Optimal dilution of the CALD1 Antibody / Caldesmon Gene Expression Regulatory Protein Antibody should be determined by the researcher.

Immunogen

Recombinant human full-length CALD1 protein was used as the immunogen for the CALD1 Antibody / Caldesmon Gene Expression Regulatory Protein Antibody.

Storage

Aliquot the recombinant CALD1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

CALD1 antibody, Caldesmon antibody, CALD1 gene expression antibody, Caldesmon transcriptional regulation antibody, h-Caldesmon antibody, CALD1 expression marker antibody