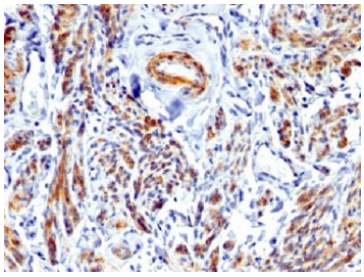
# Caldesmon Antibody / CALD1 Cellular Morphology and Structural Integrity Protein Antibody (V3231)

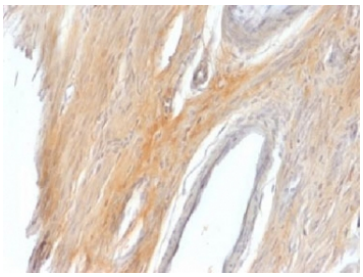
| Catalog No. | Formulation | Size |
|---|---|---|
| V3231-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 100 ug |
| V3231-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 20 ug |
| V3231SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

## Bulk quote request

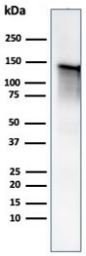
| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human, Rat |
| **Format** | Purified |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit IgG |
| **Purity** | Protein A affinity chromatography |
| **UniProt** | Q05682 |
| **Localization** | Cytoplasmic |
| **Applications** | Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT<br>Western blot: 1-2ug/ml |
| **Limitations** | This Caldesmon antibody is available for research use only. |



Caldesmon Antibody / CALD1 Cellular Morphology and Structural Integrity Protein Antibody. Immunohistochemistry analysis of Caldesmon (CALD1) in human uterus tissue. FFPE human uterus stained with Caldesmon Antibody demonstrates strong HRP-DAB brown cytoplasmic staining in smooth muscle cells of the myometrium. The staining highlights elongated, spindle-shaped cells arranged in organized bundles with continuous cytoplasmic signal, consistent with preservation of cellular morphology and structural integrity supported by stable actin filament networks. Surrounding stromal and epithelial compartments show minimal staining, reinforcing the role of CALD1 in maintaining cytoskeletal structure and cell shape. Heat-induced epitope retrieval was performed using EDTA buffer at pH 7.5-8.5.



IHC testing of FFPE rat uterus with recombinant Caldesmon antibody. Required HIER: boil tissue sections in 1mM EDTA, pH 7.5-8.5, for 10-20 min.




Caldesmon Antibody / CALD1 Cellular Morphology and Structural Integrity Protein Antibody. Western blot analysis of Caldesmon (CALD1) in human ovary tissue lysate. 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 representing the high molecular weight h-caldesmon isoform associated with structurally stable smooth muscle cells. Additional lower molecular weight bands may be observed at approximately 70-80 kDa corresponding to non-muscle isoforms that contribute to maintenance of cellular morphology and cytoskeletal integrity. The observed banding pattern reflects isoform-dependent expression of CALD1 linked to preservation of cell shape and structural organization.

## Description

Caldesmon (CALD1) contributes to the maintenance of cellular morphology by stabilizing cytoskeletal structures that define cell shape and internal organization. Caldesmon Antibody / CALD1 Cellular Morphology and Structural Integrity Protein Antibody is used to detect CALD1 in studies focused on how cells preserve structural form and resist deformation under varying conditions.

Cellular morphology is determined by the organization and stability of cytoskeletal elements, particularly actin filament networks that define the shape and mechanical properties of the cell. Caldesmon supports this organization by binding to actin filaments and reinforcing their structural arrangement, ensuring that cells maintain consistent morphology even in the presence of external or internal forces.

Caldesmon Antibody, also referred to as CALD1 antibody or h-caldesmon antibody, is useful for studying how cytoskeletal proteins contribute to the preservation of cell shape. Caldesmon is distributed along filament networks that form the structural framework of the cell, supporting organized cytoplasmic architecture and mechanical resilience.

At the molecular level, CALD1 regulates filament interactions in a way that balances rigidity with flexibility, allowing cells to maintain structural integrity while still adapting to environmental changes. This balance is critical for processes such as growth, differentiation, and response to stress, where cells must adjust their structure without losing overall organization.

Maintenance of cellular morphology is essential for proper tissue function, as changes in cell shape can affect signaling, mechanical properties, and cellular interactions. Caldesmon contributes to maintaining these properties by stabilizing actin networks and supporting consistent cytoskeletal organization across different cellular contexts.

Due to its role in preserving cytoskeletal stability and cellular structure, Caldesmon Antibody provides a reliable tool for detecting CALD1 expression in studies focused on cell morphology, structural integrity, and cytoskeletal maintenance. Its association with stable filament networks supports investigation of how cells maintain shape, resist deformation, and preserve structural organization.

## Application Notes

Titering of the Caldesmon Antibody / CALD1 Cellular Morphology and Structural Integrity Protein Antibody may be required for optimal performance.

## Immunogen

A partial human protein was used as the immunogen for the Caldesmon Antibody / CALD1 Cellular Morphology and Structural Integrity Protein Antibody.

## Storage

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

## Alternate Names

Caldesmon antibody, CALD1 antibody, Caldesmon structural protein antibody, CALD1 morphology protein antibody, h-Caldesmon antibody, Caldesmon cytoskeletal structure antibody


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