

# Caldesmon (Phospho Ser789) Rabbit pAb

CatalogNo: YP0874 Orthogonal Validated 

## Key Features

### Host Species

- Rabbit

### Reactivity

- Human, Mouse, Rat

### Applications

- WB, IHC, IF, ELISA

### MW

- 80kD (Observed)

### Isotype

- IgG

## Storage

**Storage\*** -15°C to -25°C/1 year (Do not lower than -25°C)

**Formulation** Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

## Recommended Dilution Ratios

**WB 1:500-1:2000**

**IHC 1:100-1:300**

**IF 1:200-1:1000**

**ELISA 1:5000**

**Not yet tested in other applications.**

## Basic Information

**Clonality** Polyclonal

## Immunogen Information

**Immunogen** The antiserum was produced against synthesized peptide derived from human Caldesmon around the phosphorylation site of Ser789. AA range: 744-793

## Specificity

Phospho-Caldesmon (S789) Polyclonal Antibody detects endogenous levels of Caldesmon protein only when phosphorylated at S789. The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):VTsPT

## Target Information

**Gene name** CALD1 CAD CDM

**Protein Name** Caldesmon

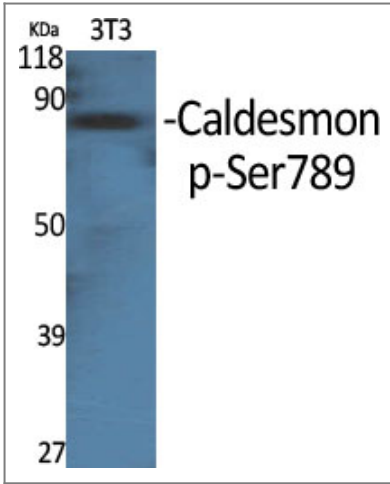
Organism	Gene ID	UniProt ID
Human	<a href="#">800</a> ;	<a href="#">Q05682</a> ;
Rat	<a href="#">25687</a> ;	<a href="#">Q62736</a> ;

**Cellular Localization** Cytoplasm, cytoskeleton . Cytoplasm, myofibril . Cytoplasm, cytoskeleton, stress fiber . On thin filaments in smooth muscle and on stress fibers in fibroblasts (nonmuscle) .

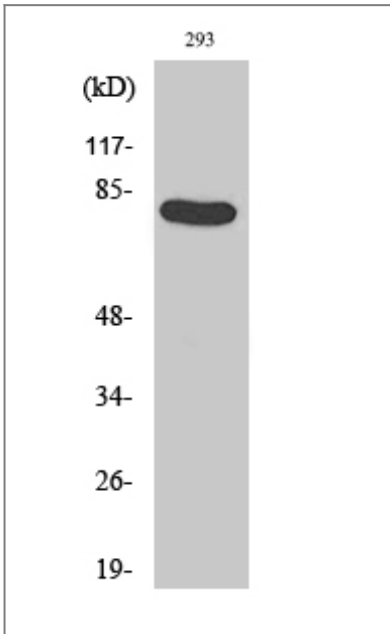
**Tissue specificity** High-molecular-weight caldesmon (isoform 1) is predominantly expressed in smooth muscles, whereas low-molecular-weight caldesmon (isoforms 2, 3, 4 and 5) are widely distributed in non-muscle tissues and cells. Not expressed in skeletal muscle or heart.

**Function** Domain: The N-terminal part seems to be a myosin/calmodulin-binding domain, and the C-terminal a tropomyosin/actin/calmodulin-binding domain. These two domains are separated by a central helical region in the smooth-muscle form. Function: Actin- and myosin-binding protein implicated in the regulation of actomyosin interactions in smooth muscle and nonmuscle cells (could act as a bridge between myosin and actin filaments). Stimulates actin binding of tropomyosin which increases the stabilization of actin filament structure. In muscle tissues, inhibits the actomyosin ATPase by binding to F-actin. This inhibition is attenuated by calcium-calmodulin and is potentiated by tropomyosin. Interacts with actin, myosin, two molecules of tropomyosin and with calmodulin. Also play an essential role during cellular mitosis and receptor capping. PTM: In non-muscle cells, phosphorylation by CDC2 during mitosis causes caldesmon to dissociate from microfilaments. Phosphorylation reduces caldesmon binding to actin, myosin, and calmodulin as well as its inhibition of actomyosin ATPase activity. Phosphorylation also occurs in both quiescent and dividing smooth muscle cells with similar effects on the interaction with actin and calmodulin and on microfilaments reorganization. Similarity: Belongs to the caldesmon family. Subcellular location: On thin filaments in smooth muscle and on stress fibers in fibroblasts (nonmuscle). Tissue specificity: High-molecular-weight caldesmon (isoform 1) is predominantly expressed in smooth muscles, whereas low-molecular-weight caldesmon (isoforms 2, 3, 4 and 5) are widely distributed in non-muscle tissues and cells. Not expressed in skeletal muscle or heart.

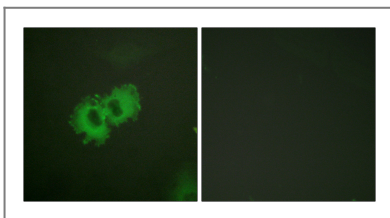
## Validation Data



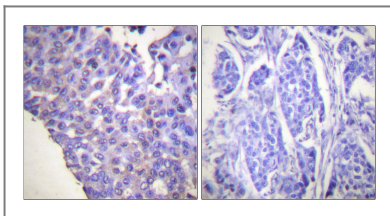
Western Blot analysis of various cells using Phospho-Caldesmon (S789) Polyclonal Antibody



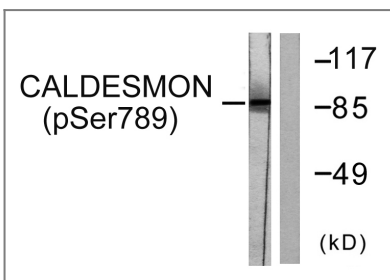
Western Blot analysis of 293 cells using Phospho-Caldesmon (S789) Polyclonal Antibody



Immunofluorescence analysis of HeLa cells, using Caldesmon (Phospho-Ser789) Antibody. The picture on the right is blocked with the phospho peptide.



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma, using Caldesmon (Phospho-Ser789) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from HeLa cells treated with EGF 200ng/ml 30', using Caldesmon (Phospho-Ser789) Antibody. The lane on the right is blocked with the phospho peptide.

## | Contact information

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Please scan the QR code to access additional product information:

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(Phospho Ser789)  
Rabbit pAb**

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