

#2980 Store at -20°C

## Caldesmon-1 Antibody



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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	70-80 non-muscle, 120-150 smooth muscle	Rabbit	#Q05682	800

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
<b>Specificity / Sensitivity</b>	Caldesmon-1 Antibody detects endogenous levels to total caldesmon-1 protein. Based on sequence homology, the antibody is expected to cross-react with both the smooth muscle and nonmuscle isoforms.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human caldesmon-1. Antibodies are purified using peptide affinity chromatography.	
<b>Background</b>	Caldesmon-1 is an actin filament stabilizing protein involved in the regulation of cell contraction. Binding of caldesmon-1 to actin is weakened by phosphorylation and by calmodulin in the presence of calcium. Caldesmon-1 is encoded by a single gene, which is spliced to generate a widely distributed low molecular weight form and a smooth muscle specific high molecular weight form (1,2). Caldesmon-1 is phosphorylated by the cyclin dependent kinase cdc2 and Erk1/2 MAP kinase, both of which prevent the activity of caldesmon-1 (3-5). Phosphorylation of caldesmon-1 by cdc2 is required for passage of cells through mitosis (6). Phosphorylation by Erk1/2 is important in regulating smooth muscle contraction (7). Caldesmon-1 activity may play a role in the formation of podosomes, adhesion complexes associated with the secretion of matrix metalloproteases, invasion, and metastasis (reviewed in 5).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>Hayashi, K. et al. (1992) <i>Proc. Natl. Acad. Sci. USA</i> 89, 12122-12126.</li> <li>Humphrey, M.B. et al. (1992) <i>Gene</i> 112, 197-204.</li> <li>Yamashiro, S. et al. (1991) <i>Nature</i> 349, 169-172.</li> <li>Mak, A.S. et al. (1991) <i>J. Biol. Chem.</i> 266, 6678-6681.</li> <li>Hai, C.M. and Gu, Z. (2006) <i>Eur. J. Cell Biol.</i> 85, 305-309.</li> <li>Yamashiro, S. et al. (2001) <i>Mol. Biol. Cell</i> 12, 239-250.</li> <li>Hedges, J.C. et al. (2000) <i>Am. J. Physiol. Cell Physiol.</i> 278, C718-C7126.</li> </ol>	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
<b>Applications Key</b>	<b>WB:</b> Western Blotting
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected
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