

#8505 Store at -20C

Myosin Light Chain 2 (D18E2) Rabbit mAb



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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	18	Rabbit IgG	#P24844	10398

Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Myosin Light Chain 2 (D18E2) Rabbit mAb recognizes endogenous levels of total myosin light chain 2 protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human myosin light chain 2 protein.	
Background	Myosin is composed of six polypeptide chains: two identical heavy chains and two pairs of light chains. Myosin light chain 2 (MLC2), also known as myosin regulatory light chain (MRLC), RLC, or LC20, has many isoforms depending on its distribution. In smooth muscle, MLC2 is phosphorylated at Thr18 and Ser19 by myosin light chain kinase (MLCK) in a Ca ²⁺ /calmodulin-dependent manner (1). This phosphorylation is correlated with myosin ATPase activity and smooth muscle contraction (2). ROCK also phosphorylates Ser19 of smooth muscle MLC2, which regulates the assembly of stress fibers (3). Phosphorylation of smooth muscle MLC2 at Ser1/Ser2 and Ser9 by PKC and cdc2 has been reported to inhibit myosin ATPase activity (4,5). Phosphorylation by cdc2 controls the timing of cytokinesis (5). Transgenic mice lacking phosphorylation sites on the cardiac muscle isoform show morphological and functional abnormalities (6).	
Background References	<ol style="list-style-type: none"> 1. Ikebe, M. and Hartshorne, D.J. (1985) <i>J. Biol. Chem.</i> 260, 10027-10031. 2. Tan, J. L. et al. (1992) <i>Annu. Rev. Biochem.</i> 61, 721-759. 3. Totsukawa, G. et al. (2000) <i>J. Cell Biol.</i> 150, 797-806. 4. Ikebe, M. et al. (2000) <i>J. Biol. Chem.</i> 262, 9569-9573. 5. Satterwhite, L. L. et al. (1992) <i>J. Cell Biol.</i> 118, 595-605. 6. Sanbe, A. et al. (1999) <i>J. Biol. Chem.</i> 274, 21085-21094. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	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.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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