

#3913 Store at -20C

Tropomyosin-1/3 (D17B8) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	32 , 35, 36, 41	Rabbit IgG	#P09493	7168

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	Tropomyosin-1/3 (D17B8) Rabbit mAb detects endogenous levels of total tropomyosin-1 and/or tropomyosin-3 protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu274 of human tropomyosin-1 protein.	
Background	Tropomyosin-1 (TPM1) belongs to the high molecular weight members of tropomyosin family (1,2). The protein exists in an alpha-helical coiled-coil conformation and binds multiple acting monomers in a tight manner to stabilize and regulate the actin filament (3). Tropomyosins fulfill functions in muscle and non-muscle cells. In muscle cells, tropomyosins associate with the troponin complex and play a central role in the calcium-dependent regulation of striated muscle contraction in vertebrates. In non-muscle cells, tropomyosins are implicated in the formation and stabilization of cytoskeletal actin filaments to ensure normal cellular processes (1,2). Mutations of tropomyosin-1 have been reported as a cause of dilated cardiac myopathies (4). Tropomyosin-1 also functions as a tumor suppressor, and many malignant tumors demonstrate downregulation of tropomyosin-1 expression (5-8). Tropomyosin-1 is phosphorylated at Ser283 through the Erk/DAPK pathway, which promotes stress fiber formation in response to oxidative stress (9-10).	
Background References	1. Perry, S.V. (2001) <i>J Muscle Res Cell Motil</i> 22, 5-49. 2. Lin, J.J. et al. (2008) <i>Adv Exp Med Biol</i> 644, 201-22. 3. Brown, J.H. et al. (2001) <i>Proc Natl Acad Sci USA</i> 98, 8496-501. 4. Rajan, S. et al. (2007) <i>Circ Res</i> 101, 205-14. 5. Bharadwaj, S. et al. (2004) <i>J Biol Chem</i> 279, 14039-48. 6. Mahadev, K. et al. (2002) <i>Exp Cell Res</i> 279, 40-51. 7. Varga, A.E. et al. (2005) <i>Oncogene</i> 24, 5043-52. 8. Raval, G.N. et al. (2003) <i>Oncogene</i> 22, 6194-203. 9. Houle, F. et al. (2003) <i>Mol Biol Cell</i> 14, 1418-32. 10. Houle, F. et al. (2007) <i>J Cell Sci</i> 120, 3666-77.	

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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