

#3910 Store at -20°C

# Tropomyosin-1 (D12H4) Rabbit mAb



✓ 100 µl  
(10 western blots)

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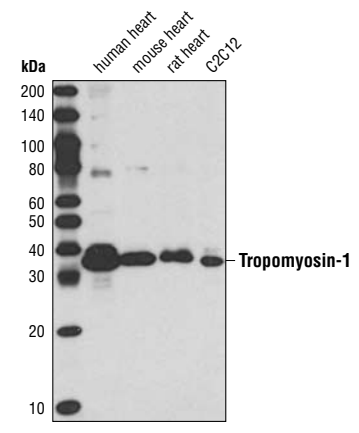
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H, M, R	32–41 kDa	Rabbit IgG**

**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 actin 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).

**Specificity/Sensitivity:** Tropomyosin-1 (D12H4) Rabbit mAb detects endogenous levels of total tropomyosin-1 protein.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide derived from residues surrounding Ala158 of human tropomyosin-1 protein.



Western blot analysis of extracts from human, mouse and rat heart tissue and C2C12 cells using Tropomyosin-1 (D12H4) Rabbit mAb.

Entrez-Gene ID #7168  
Swiss-Prot Acc. #P09493

**Storage:** Supplied in 10mM 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.

\*Species cross-reactivity is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

Western blotting 1:1000

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

**Background References:**

- (1) Perry, S.V. (2001) *J Muscle Res Cell Motil* 22, 5–49.
- (2) Lin, J.J. et al. (2008) *Adv Exp Med Biol* 644, 201–22.
- (3) Brown, J.H. et al. (2001) *Proc Natl Acad Sci USA* 98, 8496–501.
- (4) Rajan, S. et al. (2007) *Circ Res* 101, 205–14.
- (5) Bharadwaj, S. et al. (2004) *J Biol Chem* 279, 14039–48.
- (6) Mahadev, K. et al. (2002) *Exp Cell Res* 279, 40–51.
- (7) Varga, A.E. et al. (2005) *Oncogene* 24, 5043–52.
- (8) Raval, G.N. et al. (2003) *Oncogene* 22, 6194–203.
- (9) Houle, F. et al. (2003) *Mol Biol Cell* 14, 1418–32.
- (10) Houle, F. et al. (2007) *J Cell Sci* 120, 3666–77.

**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.**

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.