

#3913 Store at -20°C

# Tropomyosin-1/3 (D17B8) XP™ Rabbit mAb

✓ 100 µl  
(10 western blots)



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New 07/09

This product is for *in vitro* research use only and is not intended for use in humans or animals.  
This product is not intended for use as a therapeutic or in diagnostic procedures.

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

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

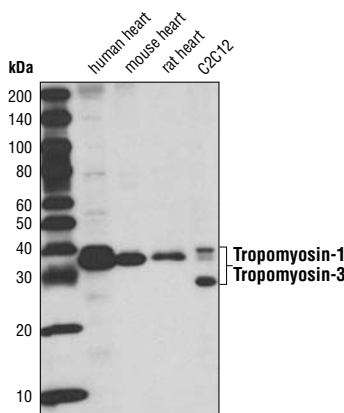
**Background:** Tropomyosin-1 (TPM1) belongs to the high molecular weight members of tropomyosin family (1,2). The protein exists in an alpha-helical coiled-coil conformation and binds multiple actin monomers in a tight manner to stabilize and regulate the actin filament (3). Tropomyosins fulfill functions 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-1/3 (D17B8) XP™ 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 (KLH-coupled) derived from residues surrounding Leu274 of human tropomyosin-1 protein.

### 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.



Western blot analysis of extracts from human, mouse and rat heart tissue and C2C12 cells using Tropomyosin-1/3 (D17B8) XP™ Rabbit mAb.

**Storage:** Supplied in 10 mM 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.

**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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.