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Tropomyosin-1 (D12H4) Rabbit mAb

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

Applications: W	Sensitivity: Endogenous	MW (kDa): 32, 35, 36, 41	Source/Isotype: Rabbit IgG	UniProt ID: #P09493	Entrez-Gene Id: 7168
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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 (D12H4) Rabbit mAb detects endogenous levels of total tropomyosin-1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala158 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 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).

Background References

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- Lin, J.J. et al. (2008) *Adv Exp Med Biol* 644, 201-22.
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- Rajan, S. et al. (2007) *Circ Res* 101, 205-14.
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- Mahadev, K. et al. (2002) *Exp Cell Res* 279, 40-51.
- Varga, A.E. et al. (2005) *Oncogene* 24, 5043-52.
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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

W: Western Blotting

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