

MYPT2 (H-71): sc-292988

BACKGROUND

Protein phosphatase 1 regulatory subunit 12B (MYPT2) is a cytoplasmic protein found along actomyosin filaments and stress fibers within the cell skeleton. MYPT2 helps regulate the activity of myosin phosphatases and enhances the sensitivity of the the contractile apparatus to Ca^{2+} . As part of the PP1 (protein phosphatase 1) complex, MYPT2 is responsible for binding the complex to myosin filaments. Cardiac myosin is the primary substrate targeted by the MYPT2 apoenzyme and its cofactor, however, it has also been identified along the A-band and Z-line of sarcomeres indicating it likely operates on multiple substrates.

REFERENCES

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2. Damer, C.K., et al. 1998. Rapid identification of protein phosphatase 1-binding proteins by mixed peptide sequencing and data base searching. Characterization of a novel holoenzymic form of protein phosphatase 1. *J. Biol. Chem.* 273: 24396-24405.
3. Moorhead, G., et al. 1998. The major myosin phosphatase in skeletal muscle is a complex between the β -isoform of protein phosphatase 1 and the MYPT2 gene product. *FEBS Lett.* 438: 141-144.
4. Bannert, N., et al. 2003. PDZ Domain-mediated interaction of interleukin-16 precursor proteins with myosin phosphatase targeting subunits. *J. Biol. Chem.* 278: 42190-42199.
5. Wu, Y., et al. 2003. Myosin phosphatase and myosin phosphorylation in differentiating C2C12 cells. *J. Muscle Res. Cell Motil.* 24: 499-511.
6. Ito, M., et al. 2004. Myosin phosphatase: structure, regulation and function. *Mol. Cell. Biochem.* 259: 197-209.
7. Lontay, B., et al. 2004. Localization of myosin phosphatase target subunit 1 in rat brain and in primary cultures of neuronal cells. *J. Comp. Neurol.* 478: 72-87.
8. Okamoto, R., et al. 2006. Characterization and function of MYPT2, a target subunit of myosin phosphatase in heart. *Cell. Signal.* 18: 1408-1416.

CHROMOSOMAL LOCATION

Genetic locus: PPP1R12B (human) mapping to 1q32.1; Ppp1r12b (mouse) mapping to 1 E4.

SOURCE

MYPT2 (H-71) is a rabbit polyclonal antibody raised against amino acids 861-931 mapping near the C-terminus of MYPT2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MYPT2 (H-71) is recommended for detection of MYPT2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MYPT2 (H-71) is also recommended for detection of MYPT2 in additional species, including canine.

Suitable for use as control antibody for MYPT2 siRNA (h): sc-62653, MYPT2 siRNA (m): sc-62654, MYPT2 shRNA Plasmid (h): sc-62653-SH, MYPT2 shRNA Plasmid (m): sc-62654-SH, MYPT2 shRNA (h) Lentiviral Particles: sc-62653-V and MYPT2 shRNA (m) Lentiviral Particles: sc-62654-V.

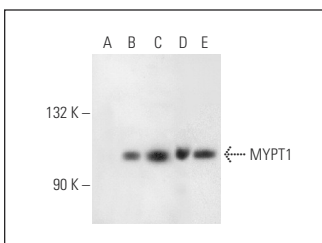
Molecular Weight of MYPT2: 110 kDa.

Positive Controls: MYPT1 (h): 293T Lysate: sc-112086, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MYPT2 (H-71): sc-292988. Western blot analysis of MYPT1 expression in non-transfected 293T: sc-117752 (A), human MYPT1 transfected 293T: sc-112086 (B), HeLa (C), HL-60 (D) and Jurkat (E) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.