

# MYPT3 (E-14): sc-47342

## BACKGROUND

The members of the MYPT family, MYPT1, MYPT2 and MYPT3 are the myosin-binding subunits of myosin phosphatase and an integral component of the myosin protein phosphatase. Myosin phosphatase regulates the interaction of actin and myosin downstream of the guanosine triphosphatase Rho. MYPT1 is localized on stress fibers and is distributed close to the cell membrane and at cell-cell contacts to regulate myosin phosphatase activity. In addition to MYPT1, a novel isoform of MYPT1, MYPT2, also interacts with PPlc. MYPT3, also designated PP16A, inhibits protein phosphatase activity involving phosphorylase, myosin light chain and myosin substrates. It acts as a lipid anchor and binds PP1. MYPT3 localizes primarily to the cell membrane.

## REFERENCES

- Skinner, J.A. and Saltiel, A.R. 2001. Cloning and identification of MYPT3: a prenylatable myosin targeting subunit of protein phosphatase 1. *Biochem. J.* 356: 257-267.
- Cao, W., Mattagajasingh, S.N., Xu, H., Kim, K., Fierlbeck, W., Deng, J., Lowenstein, C.J. and Ballermann, B.J. 2002. TIMAP, a novel CAAX box protein regulated by TGF- $\beta$ 1 and expressed in endothelial cells. *Am. J. Physiol. Cell. Physiol.* 283: C327-337.
- Ito, M., Nakano, T., Erdodi, F. and Hartshorne, D.J. 2004. Myosin phosphatase: structure, regulation and function. *Mol. Cell Biochem.* 259:197-209.
- Vereshchagina, N., Bennett, D., Szoor, B., Kirchner, J., Gross, S., Vissi, E., White-Cooper, H. and Alphey, L. 2004. The essential role of PP1 $\beta$  in *Drosophila* is to regulate nonmuscle myosin. *Mol. Biol. Cell* 15: 4395-4405.
- SWISS-PROT/TrEMBL (Q96I34). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

Genetic locus: PPP1R16A (human) mapping to 8q24.3; Ppp1r16a (mouse) mapping to 15 D3.

## SOURCE

MYPT3 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MYPT3 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-47342 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

MYPT3 (E-14) is recommended for detection of MYPT3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for MYPT3 siRNA (h): sc-61130, MYPT3 siRNA (m): sc-61131, MYPT3 shRNA Plasmid (h): sc-61130-SH, MYPT3 shRNA Plasmid (m): sc-61131-SH, MYPT3 shRNA (h) Lentiviral Particles: sc-61130-V and MYPT3 shRNA (m) Lentiviral Particles: sc-61131-V.

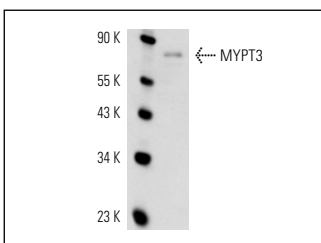
Molecular Weight of MYPT3: 75 kDa.

Positive Controls: MYPT3 (h): 293T Lysate: sc-116021, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



MYPT3 (E-14): sc-47342. Western blot analysis of MYPT3 expression in rat brain tissue extract.

## RESEARCH USE

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

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Try **MYPT3 (E-6): sc-376946**, our highly recommended monoclonal alternative to MYPT3 (E-14).