

MYPT3 (E-6): sc-376946

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

1. 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.
2. 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- β 1 and expressed in endothelial cells. *Am. J. Physiol., Cell Physiol.* 283: C327-C337.
3. Ito, M., Nakano, T., Erdodi, F. and Hartshorne, D.J. 2004. Myosin phosphatase: structure, regulation and function. *Mol. Cell. Biochem.* 259: 197-209.
4. Vereshchagina, N., Bennett, D., Szöör, B., Kirchner, J., Gross, S., Vissi, E., White-Cooper, H. and Alpey, L. 2004. The essential role of PP1 β in *Drosophila* is to regulate nonmuscle myosin. *Mol. Biol. Cell* 15: 4395-405.
5. 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-6) is a mouse monoclonal antibody raised against amino acids 31-77 mapping near the N-terminus of MYPT3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MYPT3 (E-6) is available conjugated to agarose (sc-376946 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376946 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376946 PE), fluorescein (sc-376946 FITC), Alexa Fluor[®] 488 (sc-376946 AF488), Alexa Fluor[®] 546 (sc-376946 AF546), Alexa Fluor[®] 594 (sc-376946 AF594) or Alexa Fluor[®] 647 (sc-376946 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376946 AF680) or Alexa Fluor[®] 790 (sc-376946 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MYPT3 (E-6) is recommended for detection of MYPT3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

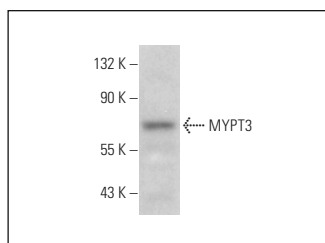
Molecular Weight of MYPT3: 75 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or Hep G2 cell lysate: sc-2227.

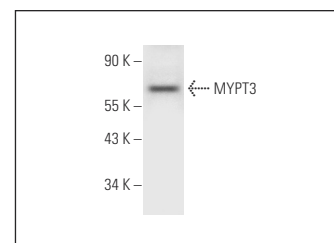
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



MYPT3 (E-6): sc-376946. Western blot analysis of MYPT3 expression in KNRK whole cell lysate.



MYPT3 (E-6): sc-376946. Western blot analysis of MYPT3 expression in Hep G2 whole cell lysate.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.