



Rabbit Anti-Phospho-MYPT1 (Thr696) antibody

SL20264R

Product Name:	Phospho-MYPT1 (Thr696)
Chinese Name:	磷酸化肌球蛋白磷酸酶抗体
Alias:	Myosin Phosphatase (phospho T696); Myosin Phosphatase (phospho Thr696); p-MYPT1(Thr696); Myosin Phosphatase; M130; MBS; MGC133042; Myosin phosphatase target subunit 1; Myosin phosphatase targeting subunit 1; MYPT 1; MYPT1; PPP1R12A; Protein phosphatase 1 regulatory inhibitor subunit 12A; Protein phosphatase 1 regulatory subunit 12A; Protein phosphatase myosin binding subunit; MYPT1_HUMAN; Myosin phosphatase-targeting subunit 1; Protein phosphatase myosin-binding subunit.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Chicken,Dog,Cow,Horse,Rabbit,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800ICC=1:100-500IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	113kDa
Cellular localization:	cytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthesised phosphopeptide derived from human MYPT1 around the phosphorylation site of Thr696:RS(p-T)QG
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	Preservative: 15mM Sodium Azide, Constituents: 1% BSA, 0.01M PBS, pH 7.4
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed

Myosin phosphatase regulates the interaction of actin and myosin downstream of the guanosine triphosphatase Rho. The small guanosine triphosphatase Rho is implicated in myosin light chain (MLC) phosphorylation, which results in contraction of smooth muscle and interaction of actin and myosin in non muscle cells. The guanosine triphosphate (GTP) bound, active form of RhoA (GTP.RhoA) specifically interacted with the myosin binding subunit (MBS) of myosin phosphatase, which regulates the extent of phosphorylation of MLC. Rho associated kinase (Rho kinase), which is activated by GTP. RhoA, phosphorylated MBS and consequently inactivated myosin phosphatase. Overexpression of RhoA or activated RhoA in NIH 3T3 cells increased phosphorylation of MBS and MLC. Therefore Rho appears to inhibit myosin phosphatase through the action of Rho kinase.

Function:

Key regulator of protein phosphatase 1C (PPP1C). Mediates binding to myosin. As part of the PPP1C complex, involved in dephosphorylation of PLK1. Capable of inhibiting HIF1AN-dependent suppression of HIF1A activity.

Subunit:

Interacts (when phosphorylated at Ser-445, Ser-472 and Ser-910) with 14-3-3. Interacts with ROCK1 and ROCK2. Interacts with isoform 1 and isoform 2 of ZIPK/DAPK3. Interacts with RAF1. Interacts with HIF1AN.

Subcellular Location:

Cytoplasm. Note=Along actomyosin filaments and stress fibers.

Tissue Specificity:

Expressed in striated muscles, specifically in type 2a fibers (at protein level).

Post-translational modifications:

Phosphorylated by CIT (Rho-associated kinase). Phosphorylated cooperatively by ROCK1 and CDC42BP on Thr-696. Phosphorylated on upon DNA damage, probably by ATM or ATR. In vitro, phosphorylation of Ser-695 by PKA and PKG appears to prevent phosphorylation of the inhibitory site Thr-696, probably mediated by PRKG1. Phosphorylation at Ser-445, Ser-472 and Ser-910 by NUA1 promotes interaction with 14-3-3, leading to inhibit interaction with myosin light chain MLC2, preventing dephosphorylation of MLC2. May be phosphorylated at Thr-696 by DMPK; may inhibit the myosin phosphatase activity. Phosphorylated at Ser-473 by CDK1 during mitosis, creating docking sites for the POLO box domains of PLK1. Subsequently, PLK1 binds and phosphorylates PPP1R12A.

Similarity:

Contains 6 ANK repeats.

SWISS:

O14974

Product Detail:

Gene ID:
4659

Database links:

[Entrez Gene: 4659](#)Human

[Entrez Gene: 17931](#)Mouse

[Entrez Gene: 116670](#)Rat

[Oimim: 602021](#)Human

[SwissProt: O14974](#)Human

[SwissProt: Q9DBR7](#)Mouse

[SwissProt: Q10728](#)Rat

[Unigene: 49582](#)Human

[Unigene: 422959](#)Mouse

[Unigene: 482714](#)Mouse

[Unigene: 162937](#)Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.