For Research Use Only

MYPT1 Polyclonal antibody

Catalog Number:22117-1-AP Featured Product 22 Publications

proteintech®
Antibodies | ELISA kits | Proteins
www.ptglab.com

Basic Information

Catalog Number:
22117-1-AP

Size:
150ul , Concentration: 950 ug/ml by Nanodrop and 640 ug/ml by Bradford method using BSA as the standard;

Source:
Rabbit

Isotype:
IgG

Immunogen Catalog Number:
AG17496

GenBank Accession Number:
BC111752

GeneID (NCBI):
4659

UNIPROT ID:
O14974

Full Name:
protein phosphatase 1, regulatory (inhibitor) subunit 12A

Calculated MW:
1030 aa, 115 kDa

Observed MW:
130 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB 1:3000-1:10000
IP 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IHC 1:50-1:500

Applications

Tested Applications:
WB, IHC, IP, ELISA

Cited Applications:
WB, IHC, IF, IP, CoIP

Species Specificity:
human, mouse, rat

Cited Species:
human, mouse, rat, pig

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : HEK-293 cells, C2C12 cells, C6 cells, HeLa cells, Jurkat cells, MCF-7 cells

IP : HEK-293 cells,

IHC : human heart tissue, human gliomas tissue, human skeletal muscle tissue, human normal colon

Background Information

Myosin phosphatase target subunit 1(MYPT1), which is also called PPP1R12A, is one of the subunits of myosin phosphatase. 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 nonmuscle 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 NIH3T3 cells increased phosphorylation of MBS and MLC. Thus, Rho appears to inhibit myosin phosphatase through the action of Rho-kinase. Phosphorylation of MYPT1 at Thr696 and Thr853 results in phosphatase inhibition and cytoskeletal reorganization. Several transcript variants encoding different isoforms have been found for this gene.

Notable Publications

Author	Pubmed ID	Journal	Application
Qingling Xie	36106411	FEBS Open Bio	WB
Dapeng Chen	27932979	Front Pharmacol	WB
Chen Jihua	31844679	Open Med (Wars)	IHC

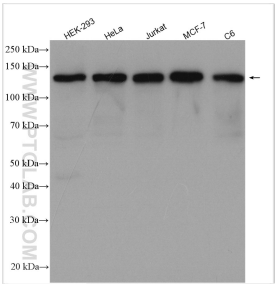
Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

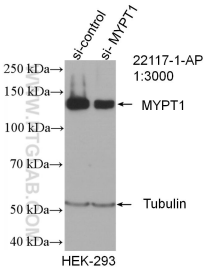
***** 20ul sizes contain 0.1% BSA**

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintech@ptglab.com
W: ptglab.com

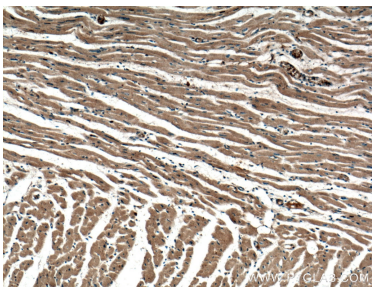
Selected Validation Data



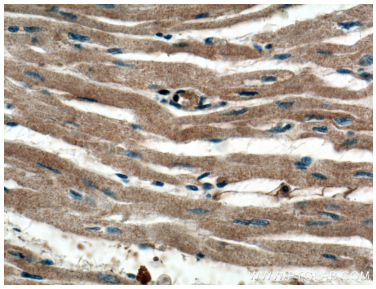
Various lysates were subjected to SDS PAGE followed by western blot with 22117-1-AP (MYPT1 antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours.



WB result of MYPT1 antibody (22117-1-AP; 1:3000; incubated at room temperature for 1.5 hours) with sh-Control and sh-MYPT1 transfected HEK-293 cells.

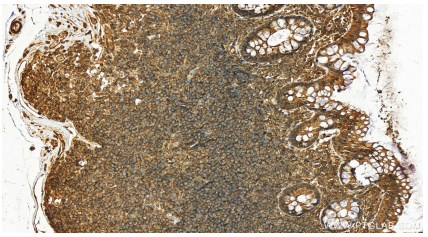


Immunohistochemical analysis of paraffin-embedded human heart tissue slide using 22117-1-AP (MYPT1 antibody) at dilution of 1:200 (under 10x lens).



Immunohistochemical analysis of paraffin-embedded human heart tissue slide using 22117-1-AP (MYPT1 antibody) at dilution of 1:200 (under 40x lens).

IP result of anti-MYPT1 (IP:22117-1-AP, 4ug; Detection:22117-1-AP 1:6000) with HEK-293 cells lysate 1480 ug.



Immunohistochemical analysis of paraffin-embedded human colon tissue slide using 22117-1-AP (MYPT1 antibody) at dilution of 1:1000 (under 20x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).