

# MYPT1 Polyclonal antibody

Catalog Number: 22117-1-AP

Featured Product

14 Publications

## Basic Information

### Catalog Number:

22117-1-AP

### Size:

150ul, Concentration: 950 µg/ml by Nanodrop and 640 µg/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 µg for 1.0-3.0 mg of total protein lysate

IHC 1:50-1:500

## Applications

### Tested Applications:

WB, IP, IHC, ELISA

### Cited Applications:

WB, IP, IF, IHC, CoIP

### Species Specificity:

human, mouse, rat

### Cited Species:

human, rat, mouse, 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

## 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 pH 7.3.

Aliquoting is unnecessary for -20°C storage

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

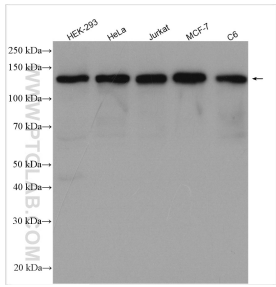
For technical support and original validation data for this product please contact:

T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)

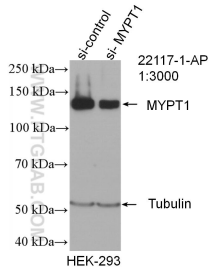
E: [proteintech@ptglab.com](mailto:proteintech@ptglab.com)  
W: [ptglab.com](http://ptglab.com)

This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.

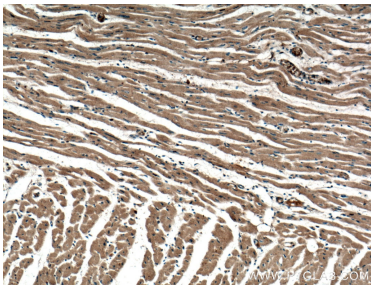
Selected Validation Data



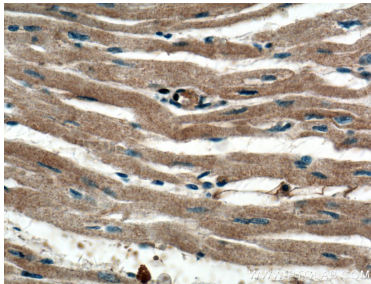
Various lysates were subjected to SDS PAGE followed by western blot with 22117-1-AP (MYPT1 antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours.



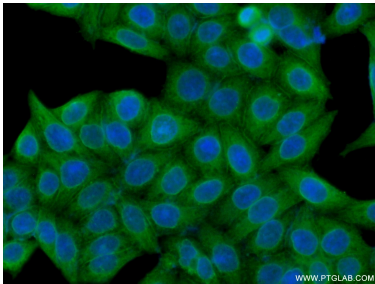
WB result of MYPT1 antibody (22117-1-AP; 1:3000; incubated at room temperature for 1.5 hours) with sh-Control and sh-MYPT1 transfected HEK-293 cells.



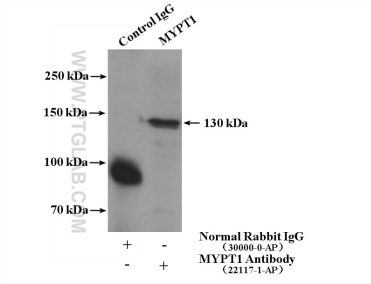
Immunohistochemical analysis of paraffin-embedded human heart tissue slide using 22117-1-AP (MYPT1 antibody) at dilution of 1:200 (under 10x lens).



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



Immunofluorescent analysis of (-20°C Ethanol) fixed HeLa cells using 22117-1-AP (MYPT1 antibody) at dilution of 1:50 and Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



IP result of anti-MYPT1 (IP:22117-1-AP, 4ug; Detection:22117-1-AP 1:1000) with HEK-293 cells lysate 4000 ug.