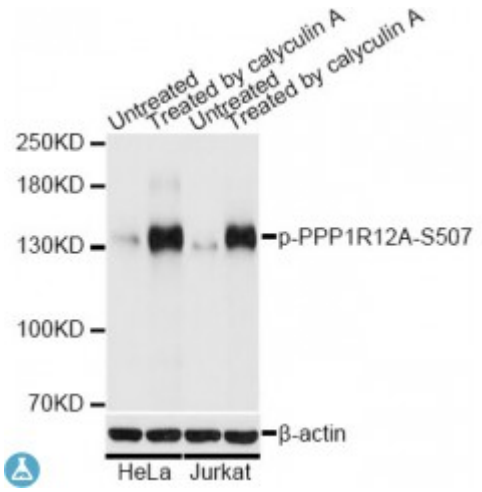
Anti-Phospho-PPP1R12A-(S507) Antibody



Description	Myosin phosphatase target subunit 1, which is also called the myosin-binding subunit of myosin phosphatase, 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 NIH 3T3 cells increased phosphorylation of MBS and MLC. Thus, Rho appears to inhibit myosin phosphatase through the action of Rho-kinase. Several transcript variants encoding different isoforms have been found for this gene.

Model	STJ116389
Host	Rabbit
Reactivity	Human
Applications	WB
Immunogen	A synthetic phosphorylated peptide around S507 of human PPP1R12A (NP_001137357.1).
Gene ID	4659
Gene Symbol	PPP1R12A

Dilution range	WB 1:500 - 1:2000
Tissue Specificity	Expressed in striated muscles, specifically in type 2a fibers (at protein level)
Purification	Affinity purification
Note	For Research Use Only (RUO).
Protein Name	Protein phosphatase 1 regulatory subunit 12A Myosin phosphatase-targeting subunit 1 Myosin phosphatase target subunit 1 Protein phosphatase myosin-binding subunit
Molecular Weight	115.281 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage Instruction	Store at -20C. Avoid freeze / thaw cycles.
Database Links	HGNC:7618OMIM:602021Reactome:R-HSA-2565942
Alternative Names	Protein phosphatase 1 regulatory subunit 12A Myosin phosphatase-targeting subunit 1 Myosin phosphatase target subunit 1 Protein phosphatase myosin-binding subunit
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,
Cellular Localization	Cytoplasm,
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 NUAK1 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