

Product datasheet for **SC332111**

Myosin Phosphatase (PPP1R12A) (NM_001244990) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Myosin Phosphatase (PPP1R12A) (NM_001244990) Human Untagged Clone
Tag:	Tag Free
Symbol:	Myosin Phosphatase
Synonyms:	GUBS; M130; MBS; MYPT1
Vector:	pCMV6-Entry (PS100001)



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Fully Sequenced ORF: >SC332111 representing NM_001244990.
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

ATGAAGATGGCGGACGCGAAGCAGAAGCGGAACGAGCAGCTGAAACGCTGGATCGGCTCCGAGACGGAC
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 GCTTGTCCAGCGGCGACACGGACGAGGTCTCAAGCTGCTGCACCGCGCGCCGACATCAATTACGCC
 AATGTGGACGGACTCACTGCCCTGCACCAGGCTGCATTGATGACAATGTTGATATGGTGAAGTTCCTG
 GTAGAAAATGGAGCAAATATTAATCAACCTGATAATGAAGGCTGGATACCACTACATGCAGCAGCTTCC
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 GGAGATACACCTTTAGATATTGCGGAGGAGGAGCAATGGAAGAGCTACTTCAAAATGAAGTAAATCGG
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 AAAATGTTACCAGACCTAAAAGCAGACAACAGAGGCTAAAGGATGAAAATGGGGCTTGATCAGAGTT
 ATAAGCAAACCTTCCAAATAA

Restriction Sites: Sgfl-Mlul
ACCN: NM_001244990

Insert Size:	2988 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none"> 1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	<u>NM_001244990.1</u>
RefSeq Size:	5477 bp
RefSeq ORF:	2988 bp
Locus ID:	4659
UniProt ID:	<u>O14974</u>
Cytogenetics:	12q21.2-q21.31
Protein Families:	Druggable Genome
Protein Pathways:	Focal adhesion, Long-term potentiation, Regulation of actin cytoskeleton, Vascular smooth muscle contraction
MW:	111.2 kDa

Gene Summary:

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. [provided by RefSeq, Jan 2009]

Transcript Variant: This variant (4) differs in the 5' UTR and lacks an exon in the coding region, compared to variant 1. The encoded isoform (c) is shorter than isoform a. Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.