

Product datasheet for SC118610

Myosin Phosphatase (PPP1R12A) (NM_002480) Human Untagged Clone

Product data:

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| Product Type: | Expression Plasmids |
| Product Name: | Myosin Phosphatase (PPP1R12A) (NM_002480) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | Myosin Phosphatase |
| Synonyms: | GUBS; M130; MBS; MYPT1 |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL4</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |

Fully Sequenced ORF: >OriGene ORF sequence for NM_001143886 edited
 GGGCGCCGCGAATTCGGCAGGAGGCCCTCTCCGCCTCCCCCTTCCCCCTCGCGATAA
 GAAGACCCGGCGCAGGAGAGGGGATGAAGATGGCGGACGCGAAGCAGAAGCGGAACGAG
 CAGCTGAAACGCTGGATCGGCTCCGAGACGGACCTCGAGCCTCCGGTGGTGAAGCGCCAG
 AAGACCAAGTGAAGTTCGACGATGGCGCCGTCTTCTGGCTGCTTGCTCCAGCGCGAC
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5' Read Nucleotide Sequence:

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>OriGene 5' read for NM_002480 unedited
CTATAGGGCGGCCGGAATTCGGCACGAGGCCCTCTCCGCCTCCCCCTTCCCCCCTCGC
GATAAGAAGACCCGGCGGAGGAGGGGATGAAGATGGCGGACGCGAAGCAGAAGCGGA
ACGAGCAGCTGAAACGCTGGATCGGCTCCGAGACGGACCTCGAGCCTCCGGTGGTGAAGC
GCCAGAAGACCAAGGTGAAGTTCGACGATGGCGCCGCTTCTCCTGGCTGCTTGCTCCAGCG
GGGACACGGACGAGGTCCTCAAGCTGCTGCACCGCGGCGGACATCAATTACGCCAATG
TGGACGGACTCACTGCCCTGCACCAGGCTTGCATTGATGACAATGTTGATATGGTGAAGT
TTCTGGTAGAAAAATGGAGCAAATATTAATCAACCTGATAATGAAGGCTGGATACCACTAC
ATGCAGCAGCTTCTGTGGATATCTTGATATTGCAGAGTTTTTGGATTGGTCAAGGAGCAC
ATGTAGGGGCTGTCAACAGTGAAGGAGATACACCTTTAGATATTGCGGAGGAGGAGGCAA
TGGAAAGAGCTACTTCAAATGAAGTTAATCGGCAAGGGGTTGATATAGAAGCAGCTCGAA
GGAAGAGAACGGATCATGCTTAGAGATGCCAGGCAGTGGCTAAATAGTGGTCATAAATG
ATGTCCGGCATGCAAATCTNGAGGTACAGCACTTACGTTGCAGCTGCTAAAGGCTTACN
GGAAGTTTAAACTTTTATACAGGCAGGCTATGATGNNTATATTAAGACTATGATGGCTG
GACACCTTATGCTGCAGCTCATTGGGTAAAGAAGGCATGTCGAATTTATGGACAATCT
GTGTGATTGGAGATGTCACAAAAGTGCGCAA
    
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| 3' Read Nucleotide Sequence: | >OriGene 3' read for NM_002480 unedited TATGGACCGGCGGCCGAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTTTTGGAAAGTTTGC TTATAACTCTGATCAAGGCCCATTTTCATCCTTAGCCTCTGGTTGTCTGCTTTTAGGT CTGGTAACATTTTGGACTCTTCTCCATTTTCAGATATTCTTTCTAGAGCTCTTCGTT CCCTTTTTCCATTTCCAACAGTGATCTATCAGCAAATCTTTCTGTCTCTGGGTGGCCT TTTCCAACGTAAATTAAGATCTGTTAGTTCATATTTGTATCATGTAGCTGTGCCTTCA GCTTTTCATTTTCAGCTAGAATTTGTTTCATAAAGCTTTTTAAAGTCAGTTGAGTCATCCT TTTCTAGCCTGCTGCTGTAAAGTTTTCTTTCTTCTAAGTAACTGTATGATCCAGAGCGAC CCAGCAAGGAATCATATCGATCACCAGCTGATGTAGAAGTGGTTTCATATCTAGAATGG AATCCGCTGAGTTTCTTTCTTATTGGATCCCTCTTCTGTGTCTGATTGTTGTTCTTGT CATTTTCATCACTATCTTGTGTCCAAAATGAACTCCTGTAGATCTTCTTTTCTCTTTG GTCGTCGTCGTTCTGATTGATTTAGTTGTGATTTATCTTCTCCTTCTTTCTCCTCTT CTCTTTTTTCTCCCTCTCTTTCATTTTCTTTTGGTATTCTCTGGAGTAAGCAGAAGTTA TGCTACAAGACTATTTGGCCTGTTTAGTTGACTTGAAGCATACAGTGAAGTCTCATAN TANAAAGTGAANAGGATGGAGTGGGTGAAGTTGAGTTGATACTGGCCTATTACGCTGGT NAGTCTCATCATACGTTCTGGGAGGACTTTGGTTATATTCATCCTCCTCTAGAGTGTCTG ACACCCTCCTTCTTGGTCCCTTAACCTGTTTCCCTTTTCCCCTTTTCTTTTTCT NCAATTCCTGGGCCCGGGCGGGTGAACGACTCTTCTATGGTT |
| Restriction Sites: | NotI-NotI |
| ACCN: | NM_002480 |
| Insert Size: | 3500 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). |
| OTI Annotation: | This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA. |
| 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_002480.1</u> , <u>NP_002471.1</u> |
| RefSeq Size: | 4613 bp |
| RefSeq ORF: | 3093 bp |
| Locus ID: | 4659 |
| UniProt ID: | <u>O14974</u> |

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| Cytogenetics: | 12q21.2-q21.31 |
| Domains: | ANK |
| Protein Families: | Druggable Genome |
| Protein Pathways: | Focal adhesion, Long-term potentiation, Regulation of actin cytoskeleton, Vascular smooth muscle contraction |
| Gene Summary: | <p>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]</p> <p>Transcript Variant: This variant (1) represents the longest transcript and encodes the longer isoform (a). Variants 1 and 2 both encode isoform a. Sequence Note: This RefSeq record was created from transcript and genomic sequence data because no single transcript was available for the full length of the gene. The extent of this transcript is supported by transcript alignments.</p> |