

## Product datasheet for **SC310021**

### Myosin Phosphatase 2 (PPP1R12B) (NM\_002481) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Myosin Phosphatase 2 (PPP1R12B) (NM_002481) Human Untagged Clone
Tag:	Tag Free
Symbol:	PPP1R12B
Synonyms:	MYPT2; PP1bp55
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**Fully Sequenced ORF:** >SC310021 representing NM\_002481.  
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

```

GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
GATCCGGTACCGAGGAGATCTGCCGCCCGCATCGCC
ATGGCGGAACTGGAGCACCTAGGAGGGAAGCGGGCAGAGTCGGCGCAATGCGGCGGGCAGAGCAGCTT
CGGCGCTGGCGGGGCTCGCTGACAGAGCAGGAGCCTGCGGAGCGACGAGGCGGGGCGGCAGCCGCTG
ACCAGGCCGGGAGCCCCAGGGTCCGCTTCGAGGACGGTCTGTCTTTCTGGCCGCTGCTCTAGCGGG
GACACCGACGAGGTGAGAAAGCTTCTGGCAAGAGGTGCTGATATCAACACGGTCAACGTGGACGGCTTG
ACAGCCCTGCACCAGGCATGTATTGATGAAAATTTGGACATGGTGAAGTTTCTGGTGAGAACAGAGCC
AATGTAAACCAGCAAGACAACGAGGGCTGGACACCCCTTCATGCAGCAGCTTCTGTGGCTATCTCAAC
ATAGCAGAGTATTTCAATACCGGAGCCAGTGTAGGTATTGTCAATAGTGAAGGTGAAGTTCCCTCT
GACCTTGACAAGAGCCAGCCATGAAGGATCTTCTTCTGGAGCAAGTAAAGAAGCAAGGAGTTGATCTA
GAGCAGTCAAGAAAAGAAGAAGAGCAGCAGATGTTGCAGGATGCCCGCCAGTGGCTCAACAGTGGGAAA
ATAGAGGATGTGAGGCAGGCTCGCTCAGGGGCTACAGCCCTTCATGTGGCTGCTGCCAAGGGCTACTCT
GAAGTCCCTCAGACTTTTAATTCAGGCTGGCTATGAACTCAATGTTCAAGGATTATGATGGCTGGACTCCC
CTCCATGCTGCTGCACACTGGGGAGTGAAGGAGGCTTGCTCCATCCTGGCAGAAGCACTTTGTGACATG
GATATTCGAAATAAACTGGGCCAGACACCATTTGATGTGGCTGATGAGGGTCTCGTGAGGACATTTGGAG
TTGCTCCAGAAGAAGCAGAATGTCTTCGAAGTAAAAGGAGACACGGAATAAACTATTGAGTCAGAT
CTGAACAGCAAGATTGAGAGTGGGTTCTTTAAGAACAAAGAGAAGATGCTCTATGAGGAGGAGACACCT
AAGTCCCAAGAAATGGAGGAAGAAAATAAAGAATCTAGTAGTCCAGCTCAGAGGAGGAGGAAGGTGAA
GATGAAGCTTCTGAGTCAGAACTGAGAAGGAGCAGATAAAAAGCCAGAAGCCTTTGTCAATCATTCC
AACTCTGAAAGCAAGAGTAGTATCACAGAGCAGATACCAGCAGCTCAAAAACCTTCTCTGCCTCT
TCTGCTAGGAGGTTCTCTTCTGGCCTTTTTAACAAGCCAGAAGAGCCCAAAGATGAATCTCCTTCTTCA
TGGAGATTGGGACTGAGAAAACTGGCAGCCACAACATGCTGAGTGAAGTGGCCAATTCCAGGGAACCT
ATAAGGGACCGAGGCTCTCCATCTATCGCTCCTCTTCAAGCCCTCGGATTTCTGCTCTACTGGACAAC
AAAGATAAGGAGAGAGAAAAAAAAGCTATATTAGTTCCTAGCACCCCGGAAGTCAACAGCACAAAGT
GATATTGAAGAAAAGGAGAACAGAGAATCAGCTGTTAATCTAGTGAGGAGTGGCTCTATAACCCGGCAG
CTATGGAGGGATGAAGCAAAAGGAAATGAAATCCACAGACAATTGCTCCCTCCACCTATGTATCAACT
TACTTGAAAAGGACTCCTCACAATCCCAGGCCACACAACAGCAGAGAAAAACAGCAGACAATGTCTCT
TCTAGCACCCCGCTCTGTGTGATCACCATCGCCCTTCTCTAGCACTGCCAATGGGGTTACAGCTACT
CCTGTGCTCTCCATTACTGGAACAGATTCTCTGTGGAAGCCAGGGAGAAGAGGAGGTCCTATCTGACT
CCTGTACGGGATGAGGAAGCAGAGTCTTACGGAAGCAGCTCCAGACAAGCTCGGCAGACACGAAGG
TCTACTCAAGGTGTCACCCCTAACAGACCTTCAAGAAGCAGAAAGGACATTAGCCGGTTCGAGGGCAGAG
AGGCAAGCTCAGGAGCAGCCTCGTGAGAAGCCCACAGACTGAAGGGCTTGAGGGGAGCCCTGAGAAG
CATGAGCCCTCAGCAGTCCAGCAACAGAAGCTGGGGAGGGCCAGCAGCCCTGGGGCAGGAGTCTGGAT
GAAGAGCCTATCTGTATCGCTGAGGTGCCAGCTCAGCCAGACAAACCCACCCAGCCAGCATCTCCT
TCTACGTCAAGACCCTCACTCTACACCAGTTCACACCTGCTATGGACAAATAGATTTTCAGTCCCTGAT
TCTGAGAGTTCAGAGACTACCACAAACTACAACCTGCAAAGGAAATGGACAAAAATGAGAATGAAGAA
GCAGATTTGGATGAGCAGTCTCTAAGAGGCTGTCCATCCGAGAGAGGAGCGGCCCAAAGAACGACGA
AGAGGCACAGGCATCAATTTCTGGACAAAGGATGAGGATGAAACTGATGGCTCTGAAGAGGTCAAAGAA
ACGTGGCATGAAAGACTTTCTAGGTTGGAATCGGGAGGTAGTAATCCTACAACCAAGTATTCTTACGGT
GACCGGGCTTCAGCAAGAGCCCGTGGGAGGCCCGGGAGGCCCGCTAGCCACCTGACCAGCCGTGTA
GAAGAAGACAGCAACAGAGATTAAAAAACTCTATGAGAGTCTGCTGACTGAAAACAAAAACTGAAA
ACAAAACCTTCAGGAAGCCAGCTAGAGCTAGCAGATATAAAGTCCAAGCTTGAGAAGGTGGCCAGCAG
AAACAAGAAAAGACCTCTGACCGATCATCAGTGTGGAGATGGAGAAACGGGAGAGGCGAGCCTTGAG
CGCAAAATGTGAGAAATGGAGGAAGAAATGAAGGTGTTAACAGAAGTGAATCCGACAACAGAGGCTG
AAAGATGAAAATGGTGCCCTCATCAGAGTCATCAGCAAAGTGTCCAAGTAG
ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT
TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC
  
```

**Restriction Sites:** SgfI-MluI

<b>Plasmid Map:</b>	□
<b>ACCN:</b>	NM_002481
<b>Insert Size:</b>	2949 bp
<b>OTI Disclaimer:</b>	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	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.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_002481.3</a>
<b>RefSeq Size:</b>	11108 bp
<b>RefSeq ORF:</b>	2949 bp
<b>Locus ID:</b>	4660
<b>UniProt ID:</b>	<a href="#">O60237</a>
<b>Cytogenetics:</b>	1q32.1
<b>Domains:</b>	ANK
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Vascular smooth muscle contraction
<b>MW:</b>	110.4 kDa

**Gene Summary:**

Myosin phosphatase is a protein complex comprised of three subunits: a catalytic subunit (PP1c-delta, protein phosphatase 1, catalytic subunit delta), a large regulatory subunit (MYPT, myosin phosphatase target) and small regulatory subunit (sm-M20). Two isoforms of MYPT have been isolated--MYPT1 and MYPT2, the first of which is widely expressed, and the second of which may be specific to heart, skeletal muscle, and brain. Each of the MYPT isoforms functions to bind PP1c-delta and increase phosphatase activity. This locus encodes both MYTP2 and M20. Alternatively spliced transcript variants encoding different isoforms have been identified. Related pseudogenes have been defined on the Y chromosome. [provided by RefSeq, Oct 2011]

Transcript Variant: This variant (1) lacks an alternate in-frame exon compared to variant 8. The resulting isoform (a, also known as the large myosin binding subunit) has the same N- and C-termini but is shorter compared to isoform h.