

## Product datasheet for **RG213896**

### **SHP1 (PTPN6) (NM\_002831) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	SHP1 (PTPN6) (NM_002831) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SHP1
Synonyms:	HCP; HCPH; HPTP1C; PTP-1C; SH-PTP1; SHP-1; SHP-1L; SHP1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG213896 representing NM\_002831  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGTGAGGTGGTTTCACCGAGACCTCAGTGGGCTGGATGCAGAGACCCTGCTCAAGGGCCGAGGTGTCC  
 ACGGTAGCTTCTGGCTCGGCCAGTCGCAAGAACCAGGGTGACTTCTCGCTCTCCGTCAGGGTGGGGGA  
 TCAGGTGACCCATATTCGGATCCAGAACTCAGGGGATTTCTATGACCTGTATGGAGGGGAGAAGTTTGGC  
 ACTCTGACAGAGCTGGTGGAGTACTACACTCAGCAGCAGGGTGTCTGCAGGACCGCAGCGCACCATCA  
 TCCACCTCAAGTACCCGCTGAAGTGTCTCCGATCCACTAGTGAGAGGTGGTACCATGGCCACATGTCTGG  
 CGGGCAGGCAGAGACGCTGCTGCAGGCCAAGGGCGAGCCCTGGACGTTTCTTGTGCGTGAGAGCCTCAGC  
 CAGCCTGGAGACTTCGTGCTTTCTGTGCTCAGTGACCAGCCCAAGGCTGGCCAGGCTCCCCGCTCAGGG  
 TCACCACATCAAGGTCAATGTGCGAGGGTGGACGCTACACAGTGGTGGTTTGGAGACCTTCGACAGCCT  
 CACGGACCTGGTGGAGCATTTCAGAAGACGGGGATTGAGGAGCCTCAGCGCCTTTGTCTACCTCGCG  
 CAGCCGTAATGCCACGAGGGTGAATGCGGCTGACATTGAGAACCGAGTGTGGAAGTGAACAAGAAGC  
 AGGAGTCCGAGGATACAGCCAAGGCTGGCTTCTGGGAGGAGTTTGGAGTTTGCAGAAGCAGGAGGTGAA  
 GAAGTTGCACAGCGTCTGGAAGGGCAGCGCCAGAGAACAAGGGCAAGAACCGCTACAAGAACATTCTC  
 CCCTTTGACCACAGCCGAGTGATCTGCAGGGCAGGGACAGTAACATCCCCGGTCCGACTACATCAATG  
 CCAACTACATCAAGAACCAGCTGCTAGGCCCTGATGAGAACGCTAAGACCTACATCGCCAGCCAGGGCTG  
 TCTGGAGGCCACGGTCAATGACTTCTGGCAGATGGCGTGGCAGGAGAACAGCCGTGTCATCGTATGACC  
 ACCCGAGAGGTGGAGAAAGGCCGAACAATGCGTCCCATACTGGCCGAGGTGGCATGCAGCGTGCTT  
 ATGGGCCCTACTCTGTGACCAACTGCGGGGAGCATGACACAACCGAATACAAACTCCGTACCTTACAGGT  
 CTCGCCGCTGGACAATGGAGACCTGATTCGGGAGATCTGGCATTACCAAGTACCTGAGCTGGCCCGACCAT  
 GGGGTCCCAGTGAAGCCTGGGGTGTCTCAGCTTCTGGACCAGATCAACCAGCGGCAGGAAAGTCTGC  
 CTCACGCAGGGCCATCATCGTGCAGTGCAGCGCCGCATCGGCCGCACAGGCACCATCATTGTCTCGA  
 CATGCTCATGGAGAACATCTCCACCAAGGGCCTGGACTGTGACATTGACATCCAGAAGACCATCCAGATG  
 GTGCGGGCGCAGCGCTCGGGCATGGTGCAGACGGAGGCGCAGTACAAGTTCATCTACGTGGCCATCGCCC  
 AGTTCATTGAAACCACTAAGAAGAAGCTGGAGGTCTGCAGTGCAGAAGGGCCAGGAGTCCGAGTACGG  
 GAACATCACCTATCCCCAGCCATGAAGAATGCCATGCCAAGGCCTCCCGCACCTCGTCCAACACAAG  
 GAGGATGTGTATGAGAACCTGCACACTAAGAACAAGGGGAGGAGAAAGTGAAGAAGCAGCGGTGAGCAG  
 ACAAGGAGAAGAGCAAGGTTCCCTCAAGAGGAAG

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG213896 representing NM\_002831  
 Red=Cloning site Green=Tags(s)

MVRWFHRDLSGLDAETLLKGRGVHGSFLARPSRKNQGFSLSVRVGDQVTHIRIQNSGDFYDLYGGEKFA  
 TLTELVEYYTQQQVQLQDRDGTIIHLKYPLNCSPTSERWYHGHMSGQAETLLQAKGEPWTFVRESLS  
 QPGDFVLSVSDQPKAGPGSPLRVTHIKVMCEGGRYTVGGLETFDSLTDLVEHFKKTGIEEASGAFVYLR  
 QPYATRVNAADIENRVLELNKKQES EDTAKAGFWEEFESLQKQEVKNLHQRLGQRPENKGNRYKNIL  
 PFDHSRVLQGRDSNIPGSDYINANYIKNQLLGPDENAKTYIASQGCEATVNDFWQMAWQENSRIVMT  
 TREVEKGRNKCPYWPVEVGMQRAYGPYSVTNCGEHDTEYKLRITLQVSPLDNGDLIREIWHYQYLSWPDH  
 GVPSEPGVLSFLDQINQRQESLPHAGPIIVHCSAGIGRTGTIIVIDMLMENISTKGLDCDIDIQTIQM  
 VRAQRSGMVQTEAQYKFIYVAIAQFIETTKKLEVLQSQKQSESEYGNITYPAMKNAHAKASRTSSKHK  
 EDVYENLHTKNKREEKVKKQRSADKEKSKGSLKRK

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_002831

**ORF Size:** 1785 bp

**OTI Disclaimer:** 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. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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:**

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:** [NM\\_002831.5](#)

**RefSeq Size:** 2253 bp

**RefSeq ORF:** 1788 bp

**Locus ID:** 5777

**UniProt ID:** [P29350](#)

**Cytogenetics:** 12p13.31

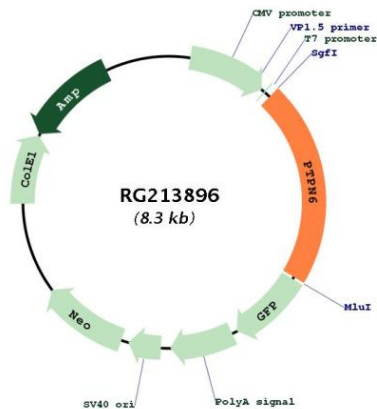
**Domains:** Y\_phosphatase, SH2, PTPc\_motif

**Protein Families:** Druggable Genome, Phosphatase, Stem cell - Pluripotency

**Protein Pathways:** Adherens junction, B cell receptor signaling pathway, Jak-STAT signaling pathway, Natural killer cell mediated cytotoxicity, T cell receptor signaling pathway

**Gene Summary:** The protein encoded by this gene is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. N-terminal part of this PTP contains two tandem Src homolog (SH2) domains, which act as protein phospho-tyrosine binding domains, and mediate the interaction of this PTP with its substrates. This PTP is expressed primarily in hematopoietic cells, and functions as an important regulator of multiple signaling pathways in hematopoietic cells. This PTP has been shown to interact with, and dephosphorylate a wide spectrum of phospho-proteins involved in hematopoietic cell signaling. Multiple alternatively spliced variants of this gene, which encode distinct isoforms, have been reported. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RG213896