

Product datasheet for **RC204902**

PTP1B (PTPN1) (NM_002827) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PTP1B (PTPN1) (NM_002827) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PTP1B
Synonyms:	PTP1B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC204902 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGGAGATGGAAAAGGAGTTCGAGCAGATCGACAAGTCCGGGAGCTGGGCGCCATTTACCAGGATATCC
 GACATGAAGCCAGTGACTTCCCATGTAGAGTGGCCAAGCTTCTAAGAACAAAAACGAAATAGGTACAG
 AGACGTACGTCCCTTTGACCATAGTCGGATTAACACTACATCAAGAAGATAATGACTATATCAACGCTAGT
 TTGATAAAAAATGGAGAAGCCAAAGGAGTTACATTCTTACCAGGGCCCTTTGCCTAACACATGCGGTC
 ACTTTTGGGAGATGGTGTGGGAGCAGAAAAGCAGGGGTGTCGTACGCTCAACAGAGTGATGGAGAAAGG
 TTCGTTAAAAATGCGCACAATACTGGCCACAAAAAGAAGAAAAGAGATGATCTTTGAAGACACAAATTTG
 AAATTAACATTGATCTCTGAAGATATCAAGTCATATTATACAGTGCACAGCTAGAATTGGAAAACCTTA
 CAACCCAGAAACTCGAGAGATTTACATTTCCACTATACCACATGGCCTGACTTTGGAGTCCCTGAATC
 ACCAGCCTCATTCTTGAACCTTTCTTTCAAAGTCCGAGAGTCAGGGTCACTCAGCCCGGAGCAGGGCCC
 GTTGTGGTGCAGTGCAGGATCGGCAGGTCTGGAACCTTCTGTCTGGCTGATACCTGCCTCTTGC
 TGATGGACAAGAGGAAAGACCCTTCTCCGTTGATATCAAGAAAGTGTGTTAGAAATGAGGAAGTTTCG
 GATGGGGCTGATCCAGACAGCCGACCAGCTGCGCTTCTCCTACCTGGCTGTGATCGAAGGTGCCAAATTC
 ATCATGGGGGACTCTCCGTGCAGGATCAGTGAAGGAGCTTCCACAGGAGCTGGAGCCCCACCCG
 AGCATATCCCCACCTCCCGGCCACCCAAACGAATCCTGGAGCCACACAATGGGAAATGCAGGGAGTT
 CTTCCAAATCACCAGTGGTGAAGGAAGAGACCAGGAGGATAAAGACTGCCCATCAAGGAAGAAAA
 GGAAGCCCCTAAATGCCGCACCCTACGGCATCGAAAGCATGAGTCAAGACACTGAAGTTAGAAGTCGGG
 TCGTGGGGGAAGTCTTCGAGGTGCCAGGCTGCCTCCCAGCCAAAGGGGAGCCGTCCTGCCCCGAGAA
 GGACGAGGACCATGCAGTGAAGTACTGGAAGCCCTTCTGGTCAACATGTGCGTGGCTACGGTCTCAGC
 GCCGGCGCTTACCTCTGCTACAGGTTCTGTTCACAGCAACACA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC204902 protein sequence
 Red=Cloning site Green=Tags(s)

MEMEKEFEQIDKSGSWAAIYQDIRHEASDFPCRVAKLPKNKNRNRVYRDVSPFDHSRIKLHQEDNDYINAS
 L IKMEEAQRSYILTQGPLPNTCGHFWEMVWEQKSRGVVMLNRVMEKGLKCAQYWPQKEEKEMIFEDTNL
 KLTLISEDIKSYTVRQLELENLTTQETREILHFHYTTWPDFGVPESPASFLNFLFKVRESGSLSPEHGP
 VVVHCSAGIGRSGTFCLADTCLLLMDKRKDPSSVDIKKVLLEMRKFRMGLIQADQLRFSYLAVIEGAKF
 IMGDSSVQDQWKELESHEDLEPPPEHI PPPPRPKRILEPHNGKCREFFPNHQWVKEETQEDKDCPIKEEK
 GSPLNAAPYGIEMSQDTEVRSRVVGGSLRGAQAASPAKGEPSLPEKDEDHALS YWKPFLVNMCVATVLT
 AGAYLCYRFLFNSNT

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6580_d11.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



ACCN: NM_002827

ORF Size: 1305 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_002827.4](#)

RefSeq Size: 3573 bp

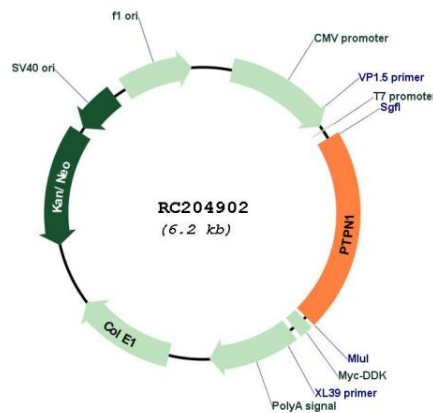
RefSeq ORF: 1308 bp

Locus ID: 5770

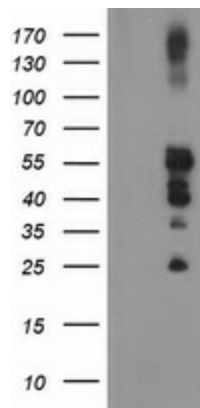
UniProt ID: [P18031](#)
Cytogenetics: 20q13.13
Domains: Y_phosphatase, PTPc_motif
Protein Families: Druggable Genome, Phosphatase, Transmembrane
Protein Pathways: Adherens junction, Insulin signaling pathway
MW: 50 kDa

Gene Summary: The protein encoded by this gene is the founding member of the protein tyrosine phosphatase (PTP) family, which was isolated and identified based on its enzymatic activity and amino acid sequence. PTPs catalyze the hydrolysis of the phosphate monoesters specifically on tyrosine residues. Members of the PTP family share a highly conserved catalytic motif, which is essential for the catalytic activity. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP has been shown to act as a negative regulator of insulin signaling by dephosphorylating the phosphotyrosine residues of insulin receptor kinase. This PTP was also reported to dephosphorylate epidermal growth factor receptor kinase, as well as JAK2 and TYK2 kinases, which implicated the role of this PTP in cell growth control, and cell response to interferon stimulation. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2013]

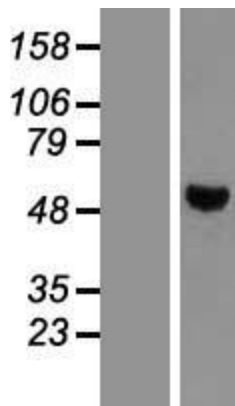
Product images:



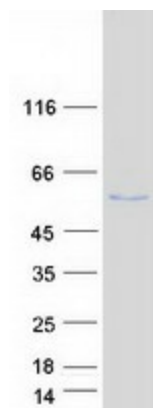
Circular map for RC204902



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PTPN1 (Cat# RC204902, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-PTPN1 (Cat# [TA503310]). Positive lysates [LY419087] (100ug) and [LC419087] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419087]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204902 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PTPN1 protein (Cat# [TP304902]). The protein was produced from HEK293T cells transfected with PTPN1 cDNA clone (Cat# RC204902) using MegaTran 2.0 (Cat# [TT210002]).