

Product datasheet for RC202627

PTEN (NM_000314) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PTEN (NM_000314) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PTEN
Synonyms:	10q23del; BZS; CWS1; DEC; GLM2; MHAM; MMAC1; PTEN1; PTENbeta; TEP1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC202627 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGACAGCCATCATCAAAGAGATCGTTAGCAGAAACAAAAGGAGATATCAAGAGGATGGATTCGACTTAG
ACTTGACCTATATTTATCCAACATTATTGCTATGGGATTTCTGCAGAAAGACTTGAAGGCGTATACAG
GAACAATATTGATGATGTAGTAAGGTTTTGGATTCAAAGCATAAAAACCATTACAAGATATACAATCTT
TGTGCTGAAAGACATTATGACACCGCCAAATTTAATTGCAGAGTTGCACAATATCCTTTTGAAGACCATA
ACCCACCACAGCTAGAACTTATCAAACCCTTTTGTGAAGATCTTGACCAATGGCTAAGTGAAGATGACAA
TCATGTTGCAGCAATTCCTGTAAGCTGAAAGGGACGAACTGGTGAATGATATGTGCATATTTATTA
CATCGGGGCAAATTTTTAAAGGCACAAGAGGCCCTAGATTTCTATGGGAAGTAAGGACCAGAGACAAAA
AGGGAGTAACTATTCAGTCAGAGGCGCTATGTGATTATTATAGCTACCTGTTAAAGAATCATCTGGA
TTATAGACCAGTGGCACTGTTGTTTACAAGATGATGTTTGAAGTATTCCAATGTTCAAGTGGCGGAACT
TGCAATCCTCAGTTTGTGGTCTGCCAGCTAAAGGTGAAGATATATTCTCCAATTCAGGACCCACACGAC
GGGAAGACAAGTTCATGTACTTTGAGTTCCTCAGCCGTTACCTGTGTGGTATATCAAAGTAGAGTT
CTTCCACAAAACAGAACAAGATGCTAAAAAAGGACAAAAATGTTTCACTTTTGGGTAATACATTCTTCATA
CCAGGACCAGAGGAAACCTCAGAAAAAGTAGAAAATGGAAGTCTATGTGATCAAGAAATCGATAGCATT
GCAGTATAGAGCGTGCAGATAATGACAAGGAATATCTAGTACTTACTTTAACAAAAAATGATCTTGACAA
AGCAAATAAAGACAAAGCCAACCGATACTTTTCTCCAATTTTAAAGGTGAAGCTGTACTTCAAAAAACA
GTAGAGGAGCCGTCAAATCCAGAGGCTAGCAGTTCAACTTCTGTAACACCAGATGTTAGTGACAATGAAC
CTGATCATTATAGATATTCTGACACCACTGACTCTGATCCAGAGAATGAACCTTTTATGAAGATCAGCA
TACACAAATTACAAAAGTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC202627 protein sequence
Red=Cloning site Green=Tags(s)

MTAIIKEIVSRNKRRYQEDGFDLDTYIYPNIIAMGFPAERLEGVYRNNIDDVVRFLDSKHKNHYKIYNL
 CAERHYDTAKFNCRVAQYPFEDHNPPQLELIKPFCELDQWLSEDDNHVAAIHCKAGKGRGTGMICAYLL
 HRGKFLKAQEALDFYGEVTRDKKGVITPSQRRYVYYSYLLKNHLDYRVPVALLFHKMMFETIPMFSGGT
 CNPQFVVCQLKVKIYSSNSGPTRRREDKFMFYEFQPLPVCGDIKVEFFHKQNKMLKKDKMFHFVNTFFI
 PGPEETSEKVENGLCDQEIDSIICSIERADNDKEYLVLTLTKNLDLKDANKDKANRYFSPNFVKVLYFTKT
 VEESNPEASSSTSVTPDVSDNEPDHYRSDTTSDPENEPFDEDQHTQITKV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6571_d10.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000314

ORF Size: 1209 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_000314.7](#)

RefSeq Size: 5572 bp

RefSeq ORF: 1212 bp

Locus ID: 5728

UniProt ID: [P60484](#)

Cytogenetics: 10q23.31

Domains: PTPc_motif

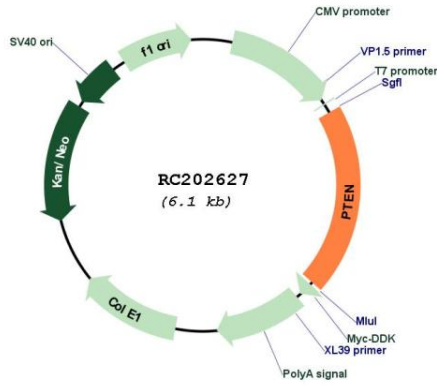
Protein Families: Druggable Genome, Phosphatase

Protein Pathways: Endometrial cancer, Focal adhesion, Glioma, Inositol phosphate metabolism, Melanoma, p53 signaling pathway, Pathways in cancer, Phosphatidylinositol signaling system, Prostate cancer, Small cell lung cancer, Tight junction

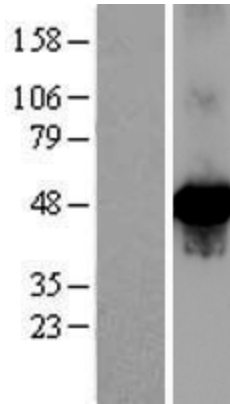
MW: 47.2 kDa

Gene Summary: This gene was identified as a tumor suppressor that is mutated in a large number of cancers at high frequency. The protein encoded by this gene is a phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase. It contains a tensin like domain as well as a catalytic domain similar to that of the dual specificity protein tyrosine phosphatases. Unlike most of the protein tyrosine phosphatases, this protein preferentially dephosphorylates phosphoinositide substrates. It negatively regulates intracellular levels of phosphatidylinositol-3,4,5-trisphosphate in cells and functions as a tumor suppressor by negatively regulating AKT/PKB signaling pathway. The use of a non-canonical (CUG) upstream initiation site produces a longer isoform that initiates translation with a leucine, and is thought to be preferentially associated with the mitochondrial inner membrane. This longer isoform may help regulate energy metabolism in the mitochondria. A pseudogene of this gene is found on chromosome 9. Alternative splicing and the use of multiple translation start codons results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Feb 2015]

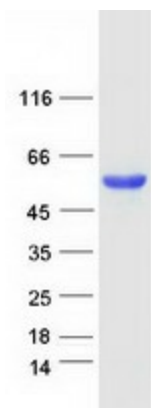
Product images:



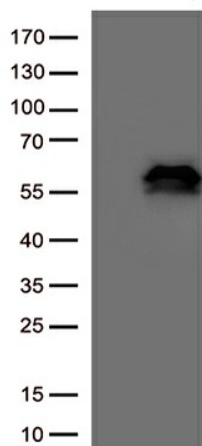
Circular map for RC202627



Western blot validation of overexpression lysate (Cat# [LY424803]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202627 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PTEN protein (Cat# [TP302627]). The protein was produced from HEK293T cells transfected with PTEN cDNA clone (Cat# RC202627) using MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PTEN (Cat# RC202627, Right lane) cDNA clone for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-PTEN. (Cat# [TA801053])(1:500)