

Product datasheet for **RG202627**

PTEN (NM_000314) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PTEN (NM_000314) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	PTEN
Synonyms:	10q23del; BZS; CWS1; DEC; GLM2; MHAM; MMAC1; PTEN1; PTENbeta; TEP1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG202627 representing NM_000314 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGACAGCCATCATCAAAGAGATCGTTAGCAGAAACAAAAGGAGATATCAAGAGGATGGATTCGACTTAG
ACTTGACCTATATTTATCCAAACATTATTGCTATGGGATTTCTGCAGAAAGACTTGAAGGCGTATACAG
GAACAATATTGATGATGTAGTAAGGTTTTGGATTCAAAGCATAAAAACCATTACAAGATATACAATCTT
TGTGCTGAAAGACATTATGACACCGCCAAATTTAATTGCAGAGTTGCACAATATCCTTTTGAAGACCATA
ACCCACCACAGCTAGAATTATCAAACCTTTTGTGAAGATCTTGACCAATGGCTAAGTGAAGATGACAA
TCATGTTGCAGCAATTCCTGTAAGCTGGAAAGGGACGAACTGGTGTAAATGATATGTGCATATTTATTA
CATCGGGGCAAATTTTTAAAGGCACAAGAGGCCCTAGATTTCTATGGGAAGTAAGGACCAGAGACAAAA
AGGGAGTAACTATTTCCAGTCAGAGGCGCTATGTGATTATTATAGCTACCTGTTAAAGAATCATCTGGA
TTATAGACCAGTGGCACTGTTGTTTACAAGATGATGTTTGAACATTCCAATGTTTCAGTGGCGGAACT
TGCAATCCTCAGTTTGTGGTCTGCCAGCTAAAGGTGAAGATATTTCTCCAATTCAGGACCCACACGAC
GGGAAGACAAGTTCATGTACTTTGAGTTCCTCAGCCGTTACCTGTGTGGTGTATCAAAGTAGAGTT
CTTCCACAAAACAGAACAAGATGCTAAAAAAGGACAAAAATGTTTCACTTTTGGGTAATAACATTCTTCATA
CCAGGACCAGAGAAACCTCAGAAAAAGTAGAAAAAGGAACTATGTGATCAAGAAATCGATAGCATT
GCAGTATAGAGCGTGCAGATAATGACAAGGAATATCTAGTACTTACTTTAACAAAAAATGATCTTGACAA
AGCAAATAAAGACAAAAGCCAACCGATACTTTTCTCCAATTTTAAAGGTGAAGCTGTACTTCACAAAAACA
GTAGAGGAGCCGTCAAATCCAGAGGCTAGCAGTTCAACTTCTGTAACACCAGATGTTAGTGACAATGAAC
CTGATCATTATAGATATTCTGACACCACTGACTCTGATCCAGAGAATGAACCTTTTGTGAAGATCAGCA
TACACAAATTACAAAAGTC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG202627 representing NM_000314
 Red=Cloning site Green=Tags(s)

MTAIIKEIVSRNKRRYQEDGFDLDTYIYPNIIAMGFPAERLEGVYRNNIDDVVRFLDSKHKNHYKIYNL
 CAERHYDTAKFNCRVAQYPFEDHNPPQLELIKPFCELDQWLSEDDNHVAAIHCKAGKRTGVMICAYLL
 HRGKFLKAQEALDFYGEVTRDKKGVITPSQRRYVYYSYLLKNHLDYRYPVALLFHKMMFETIPMFSGGT
 CNPQFVVCQLKVKIYSSNSGPTRRREDKFMFYEFPQPLPVCGDIKVEFFHKQNKMLKKDKMFHFWNTFFI
 PGPEETSEKVENGSLCDQEIDSI CSIERADNDKEYLVLTLTKNLDLKDANKDKANRYFSPNFKVKLYFTKT
 VEESNPEASSSTSVTPDVSDNEPDHYRYSDDTSDPENEPFDEDQHTQITKV

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000314

ORF Size: 1209 bp

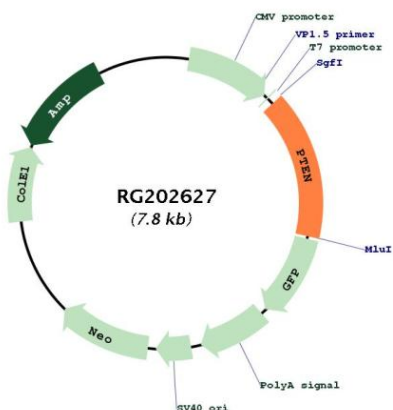
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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:	<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:	NM_000314.7
RefSeq Size:	3416 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
Gene Summary:	<p>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]</p>

Product images:



Circular map for RG202627