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Product datasheet for SC119965

PTEN (NM_000314) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PTEN (NM_000314) Human Untagged Clone
Tag:	Tag Free
Symbol:	PTEN
Synonyms:	10q23del; BZS; CWS1; DEC; GLM2; MHAM; MMAC1; PTEN1; PTENbeta; TEP1
Vector:	pCMV6-XL5
E. coli Selection:	Ampicillin (100 ug/mL)
Cell Selection:	None

Fully Sequenced ORF:

>OriGene sequence for NM_000314 edited
GAATTCGGCACGAGGGCCAAGCGGCGGCAGAGCGAGGGGCATCAGCTACCGCCAAGTCCA
GAGCCATTTCCATCCTGCAGAAGAAGCCCCGCCACCAGCAGCTTCTGCCATCTCTCTCCT
CCTTTTTCTTCAGCCACAGGCTCCCAGACATGACAGCCATCATCAAAGAGATCGTTAGCA
GAAACAAAAGGAGATATCAAGAGGATGGATTCGACTTAGACTTGACCTATATTTATCCAA
ACATTATTGCTATGGGATTTCCTGCAGAAAGACTTGAAGGCGTATACAGGAACAATATTG
ATGATGTAGTAAGGTTTTTGGATTCAAAGCATAAAAACCATTACAAGATATACAATCTTT
GTGCTGAAAGACATTATGACACCGCCAAATTTAATTGCAGAGTTGCACAATATCCTTTTG
AAGACCATAACCCACCACAGCTAGAACTTATCAAACCCTTTTGTGAAGATCTTGACCAAT
GGCTAAGTGAAGATGACAATCATGTTGCAGCAATTCACTGTAAAGCTGGAAAGGGACGAA
CTGGTGTAATGATATGTGCATATTTATTACATCGGGGCAAATTTTTAAAGGCACAAGAGG
CCCTAGATTTCTATGGGGAAGTAAGGACCAGAGACAAAAAGGGAGTAACTATTCCCAGTC
AGAGGCGCTATGTGTATTATTATAGCTACCTGTTAAAGAATCATCTGGATTATAGACCAG
TGGCACTGTTGTTTCACAAGATGATGTTTGAAACTATTCCAATGTTCAGTGGCGGAACTT
GCAATCCTCAGTTTGTGGTCTGCCAGCTAAAGGTGAAGATATATTCCTCCAATTCAGGAC
CCACACGACGGGAAGACAAGTTCATGTACTTTGAGTTCCCTCAGCCGTTACCTGTGTGTG
GTGATATCAAAGTAGAGTTCTTCCACAAACAGAACAAGATGCTAAAAAAGGACAAAATGT
TTCACTTTTGGGTAAATACATTCTTCATACCAGGACCAGAGGAAACCTCAGAAAAAGTAG
AAAATGGAAGTCTATGTGATCAAGAAATCGATAGCATTTGCAGTATAGAGCGTGCAGATA
ATGACAAGGAATATCTAGTACTTACTTTAACAAAAAATGATCTTGACAAAGCAAATAAAG
ACAAAGCCAACCGATACTTTTCTCCAAATTTTAAGGTGAAGCTGTACTTCACAAAAACAG
TAGAGGAGCCGTCAAATCCAGAGGCTAGCAGTTCAACTTCTGTAACACCAGATGTTAGTG
ACAATGAACCTGATCATTATAGATATTCTGACACCACTGACTCTGATCCAGAGAATGAAC
CTTTTGATGAAGATCAGCATACACAAATTACAAAAGTCTGAATTTTTTTTTTATCAAGAGG
GATAAAACACCATGAAAATAAACTTGAATAAACTGAAAATGGACCTTTTTTTTTTTTAATG
GCAATAGGACATTGTGTCAGATTACCAGTTATAGGAACAATTCTCTTTTCCTGACCAATC
TTGTTTTACCCTATACATCCACAGGGTTTTGACACTTGTTGTCCAGTTGAAAAAAGGTTG
TGTAGCTGTGTCATGTATATACCTTTTTGTGTCAAAAGGACATTTAAAATTCAATTAGGA
TTAATAAAGATGGCACTTTCCCGTTTTATTCCAGTTTTATAAAAAGTGGAGACAGACTGA
TGTGTATACGTAGGAATTTTTTCCTTTTGTGTTCTGTCACCAACTGAAGTGGCTAAAGAG
CTTTGTGATATACTGGTTCACATCCTACCCCTTTGCACTTGTGGCAACAGATAAGTTTGC
AGTTGGCTAAGAGAGGTTTCCGAAGGGTTTTGCTACATTCTAATGCATGTATTCGGGTTA
GGGGAATGGAGGGAATGCTCAGAAAGGAAATAATTTTATGCTGGACTCTGGACCATATAC
CATCTCCAGCTATTTACACACACCTTTCTTTAGCATGCTACAGTTATTAATCTGGACATT
CGAGGAATTGGCCGCTGTCACTGCTTGTTGTTTGCGCATTTTTTTTTAAAGCATATTGGT
GCTAGAAAAGGCAGCTAAAGGAAGTGAATCTGTATTGGGGTACAGGAATGAACCTTCTGC
AACATCTTAAGATCCACAAATGAAGGGATATAAAAATAATGTCATAGGTAAGAAACACAG
CAACAATGACTTAACCATATAAATGTGGAGGCTATCAACAAAGAATGGGCTTGAAACATT
ATAAAAATTGACAATGATTTATTAAATATGTTTTCTCAATTGTAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAACTCGAC

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_000314 unedited
ACGACTCCTATAGGGCGGCCGCGAATTCGCACGAGGGCCAAGCGGCGGCAGAGCGAGGGG
CATCAGCTACCGCCAAGTCCAGAGCCATTTCCATCCTGCAGAAGAAGCCCCGCCACCAGC
AGCTTCTGCCATCTCTCTCCTCCTTTTTCTTCAGCCACAGGCTCCCAGACATGACAGCCA
TCATCAAAGAGATCGTTAGCAGAAACAAAAGGAGATATCAAGAGGATGGATTCGACTTAG
ACTTGACCTATATTTATCCAAACATTATTGCTATGGGATTTCCTGCAGAAAGACTTGAAG
GCGTATACAGGAACAATATTGATGATGTAGTAAGGTTTTTGGATTCAAAGCATAAAAACC
ATTACAAGATATACAATCTTTGTGCTGAAAGACATTATGACACCGCCAAATTTAATTGCA
GAGTTGCACAATATCCTTTTGAAGACCATAACCCACCACAGCTAGAACTTATCAAACCCT
TTTGTGAAGATCTTGACCAATGGCTAAGTGAAGATGACAATCATGTTGCAGCAATTCACT
GTAAAGCTGGAAAGGGACGAACTGGTGTAATGATATGTGCATATTTATTACATCGGGGCA
AATTTTTAAAGGCACAAGAGGCCCTAGATTTCTATGGNGAAGTAAGGACCAGAGACAAAA
GGGAGTAACTATTCCCAGTCAGAGGCGCTATGTGTATTATTATAGCTACCTGTTAAAGAT
CATCTGGATTATAGACCAGTGGCACTGGNTGTTCACAAGATGATGTTTGAAACTATNCCC
ATGGTCAGTGGCGGAACTTNGCATCCTCAGTTNGTGGTCTGCCAGCTAAGGGTGAAGAAT
ATNCCTCCATNCAGGACCACACGACGGGNAGACAGTCATGTCCTTTGAGTCCCTCAGCCG
TACCTGGGTGTGTGAATCAAAGAAAAGTCTTCCCAACAGACAGAGCTAAAAGGCAAATGN
NTACTTTGGTAAAACATNTNATACAGACAAAGAACTC

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_000314 unedited
ATGGACCGGCGGCCGCAATCTAGGATCGAGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
TTTTTACAATTGAGAAAAACATATTTAATAAATCATTGTCAATTTTTATAATGTTTCAAG
CCCATTCTTTGTTGATAGCCTCCACATTTATATGGTTAAGTCATTGTTGCTGGGTTTCTT
ACCTATGACATTATTTTTATATCCCTTCATTTGGGGATCTTAAAATGTTGCAAAAGGTTC
ATTCCTGTACCCCAATACAGATTCACTTCCTTTAGCTGCCTTTTCTAGCACCAATATGCT
TTAAAAAAAAATGCGCAAACAACAAGCAGGGACAGCGGCCAATTCCTCGAATGTCCAGAT
TAATAACTGTAGCATGCTAAAGAAAGGGGTGTGTAAATAGCTGGAGATGGTATATGGTCC
AGAGTCCAGCATAAAATTATTTCCTTTCTGAGCATTCCCTCCATTCCCCTAACCCGAATA
CATGCATTAAAATGTAGCAAAACCCTTCGGAAACCTCTCTTAGCCAACTGCAAACTTATC
TGTTGCCACAAGTGCAAAGGGGTAGGATGTGAACCAGTATATCACAAAGCTCTTTAGCCA
CTTCAGTTGGTGACAGAACACAAAAGGAAAAAATTCCTACGTATACACATCAGTCTGTCT
CCACTTTTTATAAAACTGGGATAAAACGGGAAAGNGCCATCTTTATTAATCCTAATTGAA
TTTTAAATGCCCTTTTGACACAAAAGTATATACATGACACAGCTACACAACCTTTTTTCA
ACTGGACANNCAGTGTCAAAACCCTGTGGTGTATAGGGTAAAACAAGATTGGTCAGGAAA
GAGAATTGTTCCTAAACTGGGNATCTGACACAGTGCCTATTGCCATAAAAAAAAAGGGCC
ATTTCAGTTATCCAAGTTATTTCATGGGGTTTATCCCTCTGAAAAAAAATCGACTTTGGA
ATGGGATGCGGACTCACAAAGGTATCCCTGA

Restriction Sites: NotI-NotI

ACCN: NM_000314

Insert Size: 2390 bp

OTI Disclaimer:	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 custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery. 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
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_000314.3, NP_000305.3
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: 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]
Transcript Variant: This variant (1) encodes multiple isoforms due to the use of alternative translation initiation codons. The longest isoform (PTEN-L, PMID:23744781; also known as PTENalpha, PMID: 24768297) is derived from the use of an upstream non-AUG (CUG) start codon, while two shorter isoforms are derived from downstream AUG start codons. The most abundant isoform (PTEN), which is derived from the use of the 5'-most AUG start codon, is represented in this RefSeq. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.