

Product datasheet for **TP710023**

PTEN (NM_000314) Human Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant protein of human phosphatase and tensin homolog (PTEN),full length, with N-terminal polyhistidine tag, expressed in sf9 cells.
Species:	Human
Expression Host:	Sf9
Expression cDNA Clone or AA Sequence:	A DNA sequence from TrueORF clone, RC202627, encoding human full-length PTEN
Tag:	N-His
Predicted MW:	47 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	50 mM Tris-HCl, pH 8.0, 150 mM NaCl, 20% glycerol
Bioactivity:	In vitro kinase assay substrate (PMID: 25701194)
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
RefSeq:	NP_000305
Locus ID:	5728
UniProt ID:	P60484 , F6KD01
RefSeq Size:	5572
Cytogenetics:	10q23.31
RefSeq ORF:	1209
Synonyms:	10q23del; BZS; CWS1; DEC; GLM2; MHAM; MMAC1; PTEN1; PTENbeta; TEP1



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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]

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

Product images: