

Recombinant Full Length Human Phosphatase And Tensin Homolog / PTEN Protein, His-tagged

Cat. No. PTEN-482H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant PTEN protein was expressed in <i>E.coli</i> and purified by using conventional chromatography techniques. MW = 49.3 kDa (423aa)
Species	Human
Source	E.coli
ProteinLength	1-403 a.a.
Description	PTEN, also known as phosphatase and tensin homolog, is a tumor suppressor that is mutated in a large number of cancers at high frequency. This protein acts as both a dual-specificity protein phosphatase and a lipid phosphatase, removing the phosphate in the D3 position of the inositol ring from phosphatidylinositol 3,4,5-trisphosphate. PTEN 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.
Amino Acid Sequence	MGSSHHHHHH SSGLVPRGSH MTAIKEIVS RNKRRYQEDG FDLDLTYIYP NIIAMGFPAE RLEGVYRNNI DDVVRFLDSK HKNHYKIYNL CAERHYDTAK FNCRVAQYPF EDHNPPQLEL IKPFCEDLDQ WLSEDDNHVA AIHCKAGKGR TGVMICAYLL HRGKFLKAQE ALDFYGEVRT RDKKGV TIPS QRRYVYYYSY LLKNHLDYRP VALLFHKMMF ETIPMFSGGT CNPQFVVCQL KVKIYSSNSG PTRREDKFMY FEFQPLPVC GDIKVEFFHK QNKMLKKDKM FHFVWNTFFI

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

PGPEETSEKV ENGLCDQEI DSICSIERAD NDKEYLVLT TLTKNDLDKANK
 DKANRYFSPN FKVKLYFTKT VEEPSNPEAS SSTSVPDVS DNEPDHYRYS
 DTTDSDPENE PFDEDQHTQI TKV.

Form

Liquid. In 20 mM Tris-HCl buffer (pH 8.0) containing 1mM EDTA, 2mM DTT, 100Mm NaCl, and 20% glycerol.

Purity

> 85% by SDS – PAGE.

Concentration

0.5 mg/ml (determined by Bradford assay).

Storage

Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

GENE INFORMATION

Gene Name

[PTEN phosphatase and tensin homolog \[Homo sapiens \]](#)

Synonyms

PTEN; phosphatase and tensin homolog; PTEN phosphatase and tensin homolog; phosphatase and tensin homolog; mutated in multiple advanced cancers 1; MMAC1 phosphatase and tensin homolog deleted on chromosome 10; EC 3.1.3.16; EC 3.1.3.48; EC 3.1.3.67; MMAC1; TEP1; PTEN1; Phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN; 10q23del; BZS; MGC11227; MHAM; OTTHUMP00000020032; Mutated in multiple advanced cancers 1; phosphatase and tensin homolog

Gene ID

[5728](#)

mRNA Refseq

[NM_000314](#)

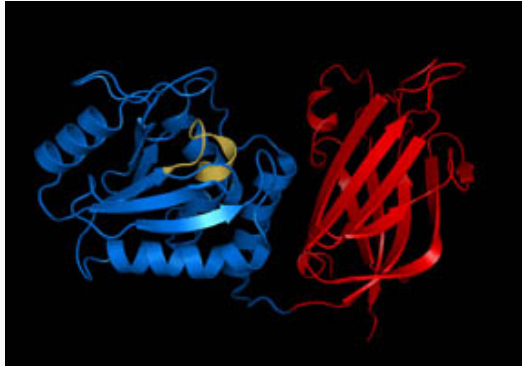
Protein Refseq

[NP_000305](#)

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MIM	601728
UniProt ID	P60484
Chromosome Location	10q23
Pathway	Endometrial cancer; Focal adhesion; Glioma; Inositol phosphate metabolism; Melanoma; Pathways in cancer; Phosphatidylinositol signaling; system; Prostate cancer; Small cell lung cancer; Tight junction; p53 signaling pathway; Signaling in Immune system; Signalling by NGF
Function	PDZ domain binding; hydrolase activity; inositol-1,3,4,5-tetrakisphosphate 3-phosphatase activity; lipid binding; magnesium ion binding; phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase activity; phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase activity; phosphatidylinositol-3,4-bisphosphate 3-phosphatase activity; phosphatidylinositol-3-phosphatase activity; platelet-derived growth factor receptor binding; protein binding; protein serine/threonine phosphatase activity; protein tyrosine phosphatase activity; protein tyrosine/serine/threonine phosphatase activity
Crystallographic structure of human PTEN. The N-terminal phosphatase domain is colored blue while the C-terminal C2 domain is colored red.	

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