Recombinant Human PTEN Protein, Myc/DDK-tagged, C13 and N15-labeled

Cat. No. PTEN-2403H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	PTEN MS Standard C13 and N15-labeled recombinant protein (NP_000305) with a C-terminal MYC/DDK tag, was expressed in HEK293 cells.
Species	Human
Source	HEK293
Description	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.
Molecular Mass	47.2 kDa

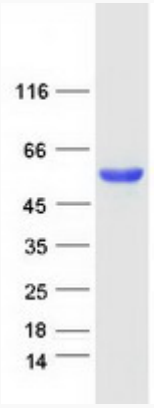
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AA Sequence	MTAIIKEIVSRNKRRYQEDGFDLDLTYIYPNIIAMGFPAERLEGVYRNNIDDVVRFLDS KHKNHYKIYNLCAERHYDTAKFNCRVAQYPFEDHNPPQLELIKPFCEDLDQWLSED DNHVAAIHCKAGKGRTGVMICAYLLHRGKFLKAQEALDFYGEVRTRDKKGVTIPSQR RYVYYYSYLLKNHLDYRPVALLFHKMMFETIPMFSGGTCNPQFVVCQLKVKIYSSNS GPTRREDKFMYFEFPQPLPVCGDIKVEFFHKQNKMLKKDKMFHFWVNTFFIPGPEE TSEKVENGSLCDQEIDSICSIERADNDKEYLVLTLTKNDLDKANKDKANRYFSPNFKV KLYFTKTVEEPSNPEASSSTSVTPDVSDNEPDHYRYSDTTDSDPENEPFDEDQHTQI TKVTRTRPLEQKLISEEDLAANDILDYKDDDDKV
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 3 months from receipt of products under proper storage and handling conditions.
Storage	Store at -80 centigrade. Avoid repeated freeze-thaw cycles.
Concentration	50 μg/mL as determined by BCA
Storage Buffer	100 mM glycine, 25 mM Tris-HCl, pH 7.3.

GENE INFORMATION

Gene Name	PTEN phosphatase and tensin homolog [Homo sapiens (human)]
Official Symbol	PTEN
Synonyms	PTEN; phosphatase and tensin homolog; BZS, MHAM; phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN; MMAC1; mutated in multiple advanced cancers 1; PTEN1; TEP1; phosphatase and tensin-like protein; MMAC1 phosphatase and tensin homolog deleted on chromosome 10; BZS; DEC; GLM2; MHAM; 10q23del; MGC11227;

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Gene ID	5728
mRNA Refseq	NM_000314
Protein Refseq	NP_000305
MIM	601728
UniProt ID	P60484
SDS-PAGE	

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