

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

MTAIIKEIVSRNKRRYQEDGFDLDTYIYPNIIAMGFPAERLEGVYRNNIDDVVRFLDS
 KHKNHYKIYNLCAERHYDTAKFNCRVAQYPFEDHNPPQLELIKPFCELDLQWLSED
 DNHVAAIHCKAGKGRGTGVMICAYLLHRGKFLKAQEALDFYGEVTRDRKKGVTIPSQR
 RYVYYYSYLLKNHLDYRVPALLFHKMMFETIPMFSGGTCNPQFVVCQLKVKIYSSNS
 GPTRREDKFMFYFEPQPLPVCVDIKVEFFHKQNKMLKDKMFHFWNTFFIPGPEE
 TSEKVENGLCDQEIDSICSIERADNDKEYLVLTLTKNLDLKDANKDKANRYFSPNFKV
 KLYFTKTVEEPSNPEASSSTSVTPDVSDNEPDHYRYSDDTSDPENEPFDEDQHTQI
 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

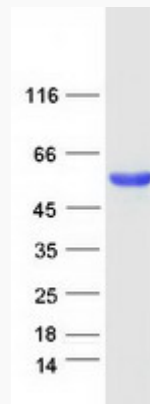
mRNA Refseq NM_000314

Protein Refseq NP_000305

MIM 601728

UniProt ID P60484

SDS-PAGE



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