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**Product Data Sheet**


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Product Name: PTEN Human, His

Cat. No.: GP24267

Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Phosphatidylinositol-3;4;5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN; EC 3.1.3.67; EC 3.1.3.16; EC 3.1.3.48; Phosphatase and tensin homolog; Mutated in multiple advanced cancers 1; PTEN; MMAC1; TEP1; BZS; MHAM; PTEN1; 10q23del; MGC11227.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MTAIIKEIVS RNKRRYQEDG FDLDLTYIYP NIIAMGFPAE RLEGVYRNNI DDVVRFLDSK HKNHYKIYNL CAERHYDTAK FNCRVAQYPF EDHNPPQLEL IKPFCEDLDQ WLSEDDNHVA AIHCKAGKGR TGVMICAYLL HRGKFLKAQE ALDFYGEVRT RDKKGV TIPS QRRYVYYYSY LLKNHLDYRP VALLFHKMMF ETIPMFSGGT CNPQFVVCQL KVKIYSSNSG PTRREDKFMF FEFPQPLPVC GDIKVEFFHK QNKMLKKDKM FHFVWNTFFI PGPEETSEKV ENGLCDQEI DSICSIERAD NDKEYLVLT TL TKNDLDKANK DKANRYFSPN FVKLYFTKT VEEPSNPEAS SSTSVPDVS DNEPDHYRYS DTTDSDPENE PFDEDQHTQI TKV.		
Formulation	The PTEN solution contains 20mM Tris-HCl buffer (pH 8.0), 1mM EDTA, 2mM DTT, 100mM NaCl, and 20% glycerol.		

**Introduction**

PTEN, a tumor suppressor, has been implicated in a large number of human tumors and is conserved from humans to worms. PTEN has a tensin like domain and a catalytic domain similar to that of the dual specificity protein tyrosine phosphatases.

Characterization of PTEN protein showed that it is a phosphatase that acts on proteins and on 3-phosphorylated phosphoinositides, and can therefore modulate signal transduction pathways that involve lipid second messengers. In contrast to most of the protein tyrosine phosphatases, PTEN preferentially dephosphorylates phosphoinositide

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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substrates. PTEN negatively regulates intracellular levels of phosphatidylinositol-3,4,5-trisphosphate in cells and acts as a tumor suppressor by negative regulation of AKT/PKB signaling pathway. Recent results indicate that at least part of its role is to regulate the activity of the serine/threonine kinase AKT/PKB, and thus influence cell survival signaling.

### Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Background

PTEN Human Recombinant fused with a 20 amino acid His tag at N-terminus produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 423 amino acids (1-403 a.a.) and having a molecular mass of 49.3kDa. The PTEN is purified by proprietary chromatographic techniques.

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