

**PTEN Antibody (N-term)**  
**Purified Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM8597b**

**Specification**

**PTEN Antibody (N-term) - Product Information**

|                   |   |
|-------------------|---|
| Application       | <b>WB,E</b>   |
| Primary Accession | <a href="#">P60484</a>  |
| Other Accession   | <a href="#">P60483</a> , <a href="#">O08586</a> ,<br><a href="#">Q9PUT6</a> |
| Reactivity        | <b>Human, Mouse,<br/>Rat</b>  |
| Predicted Host    | <b>Xenopus<br/>Mouse</b>  |
| Clonality         | <b>monoclonal</b>   |
| Isotype           | <b>IgG1,k</b>   |
| Calculated MW     | <b>47166</b>  |

**PTEN Antibody (N-term) - Additional Information**

**Gene ID 5728**

**Other Names**

Phosphatidylinositol 3, 5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN, 3.1.3.16, 3.1.3.48, 3.1.3.67, Mutated in multiple advanced cancers 1, Phosphatase and tensin homolog, PTEN, MMAC1, TEP1

**Target/Specificity**

This PTEN antibody is generated from a mouse immunized with a KLH conjugated synthetic peptide between 10-44 amino acids from the N-terminal region of human PTEN.

**Dilution**

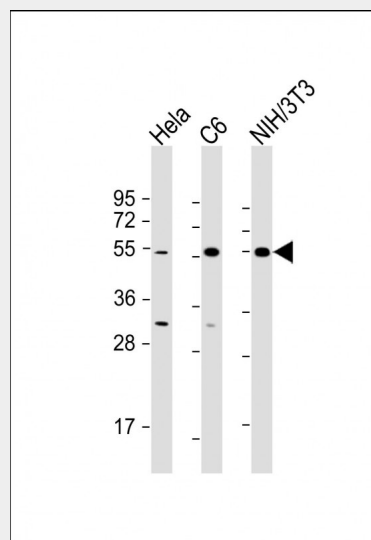
WB ~ 1:500-1:2000

**Format**

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.



All lanes : Anti-PTEN Antibody (N-term) at 1:500-1:2000 dilution Lane 1: HeLa whole cell lysate Lane 2: C6 whole cell lysate Lane 3: NIH/3T3 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 47 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

**PTEN Antibody (N-term) - Background**

Tumor suppressor. Acts as a dual-specificity protein phosphatase, dephosphorylating tyrosine-, serine- and threonine-phosphorylated proteins. Also acts as a lipid phosphatase, removing the phosphate in the D3 position of the inositol ring from phosphatidylinositol 3,4,5-trisphosphate, phosphatidylinositol 3,4-diphosphate, phosphatidylinositol 3-phosphate and inositol 1,3,4,5-tetrakisphosphate with order of substrate preference in vitro PtdIns(3,4,5)P3 > PtdIns(3,4)P2 > PtdIns3P > Ins(1,3,4,5)P4. The lipid phosphatase activity is critical for its tumor suppressor function. Antagonizes the PI3K- AKT/PKB signaling pathway by dephosphorylating phosphoinositides and thereby modulating cell cycle progression and

**Precautions**

PTEN Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**PTEN Antibody (N-term) - Protein Information**

**Name** PTEN

**Synonyms** MMAC1, TEP1

**Function**

Tumor suppressor. Acts as a dual-specificity protein phosphatase, dephosphorylating tyrosine-, serine- and threonine-phosphorylated proteins. Also acts as a lipid phosphatase, removing the phosphate in the D3 position of the inositol ring from phosphatidylinositol 3,4,5-trisphosphate, phosphatidylinositol 3,4- diphosphate, phosphatidylinositol 3-phosphate and inositol 1,3,4,5- tetrakisphosphate with order of substrate preference in vitro PtdIns(3,4,5)P3 > PtdIns(3,4)P2 > PtdIns3P > Ins(1,3,4,5)P4 (PubMed:<a href="http://www.uniprot.org/citations/26504226" target="\_blank">26504226</a>, PubMed:<a href="http://www.uniprot.org/citations/16824732" target="\_blank">16824732</a>). The lipid phosphatase activity is critical for its tumor suppressor function. Antagonizes the PI3K-AKT/PKB signaling pathway by dephosphorylating phosphoinositides and thereby modulating cell cycle progression and cell survival. The unphosphorylated form cooperates with MAGI2 to suppress AKT1 activation. Dephosphorylates tyrosine-phosphorylated focal adhesion kinase and inhibits cell migration and integrin-mediated cell spreading and focal adhesion formation. Plays a role as a key modulator of the AKT-mTOR signaling pathway controlling the tempo of the process of newborn neurons integration during adult neurogenesis, including correct neuron positioning, dendritic development and synapse formation. May be a negative regulator of insulin signaling and glucose metabolism in adipose tissue. The nuclear monoubiquitinated form possesses greater apoptotic potential, whereas the cytoplasmic nonubiquitinated form induces less tumor suppressive ability. In motile cells, suppresses the formation of lateral pseudopods and thereby promotes cell

cell survival. The unphosphorylated form cooperates with AIP1 to suppress AKT1 activation. Dephosphorylates tyrosine-phosphorylated focal adhesion kinase and inhibits cell migration and integrin-mediated cell spreading and focal adhesion formation. Plays a role as a key modulator of the AKT-mTOR signaling pathway controlling the tempo of the process of newborn neurons integration during adult neurogenesis, including correct neuron positioning, dendritic development and synapse formation. May be a negative regulator of insulin signaling and glucose metabolism in adipose tissue. The nuclear monoubiquitinated form possesses greater apoptotic potential, whereas the cytoplasmic nonubiquitinated form induces less tumor suppressive ability. In motile cells, suppresses the formation of lateral pseudopods and thereby promotes cell polarization and directed movement.

**PTEN Antibody (N-term) - References**

Li D.M.,et al.Cancer Res. 57:2124-2129(1997).  
Steck P.A.,et al.Nat. Genet. 15:356-363(1997).  
Li J.,et al.Science 275:1943-1947(1997).  
Hamilton J.A.,et al.Br. J. Cancer 82:1671-1676(2000).  
Wang S.,et al.Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases.

polarization and directed movement.

#### **Cellular Location**

Cytoplasm. Nucleus. Nucleus, PML body.  
Note=Monoubiquitinated form is nuclear.  
Nonubiquitinated form is cytoplasmic.  
Colocalized with PML and USP7 in PML  
nuclear bodies (PubMed:18716620).  
XIAP/BIRC4 promotes its nuclear localization  
(PubMed:19473982).

#### **Tissue Location**

Expressed at a relatively high level in all  
adult tissues, including heart, brain,  
placenta, lung, liver, muscle, kidney and  
pancreas.

### **PTEN Antibody (N-term) - Protocols**

Provided below are standard protocols that you  
may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)