

## **Goat anti-PTEN Antibody**

Peptide-affinity purified goat antibody Catalog # AF4337a

## **Specification**

## **Goat anti-PTEN Antibody - Product Information**

Application
Primary Accession
Other Accession
Reactivity
Host
Clonality
Calculated MW

WB
P60484
NP\_000305.3
Human, Mouse, Rat, Pig, Dog, Bovine
Goat
Polyclonal
47166

## **Goat anti-PTEN Antibody - Additional Information**

#### **Gene ID 5728**

## **Other Names**

PTEN; BZS; MHAM; TEP1; MMAC1; PTEN1; MGC11227; phosphatase and tensin homolog (mutated in multiple advanced cancers 1); tensin homolog; mutated in multiple advanced cancers 1; MMAC1 phosphatase and tension homolog deleted on chromosome 10; phosphatase and

## **Format**

Supplied at 0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin. Aliquot and store at -20°C. Minimize freezing and thawing.

## **Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

#### **Precautions**

Goat anti-PTEN Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## **Goat anti-PTEN Antibody - Protein Information**

### **Name PTEN**

Synonyms MMAC1, TEP1

#### **Function**

Dual-specificity protein phosphatase, dephosphorylating tyrosine-, serine- and threonine-phosphorylated proteins (PubMed:<a href="http://www.uniprot.org/citations/9187108" target="\_blank">9187108</a>, PubMed:<a href="http://www.uniprot.org/citations/9256433" target="\_blank">9256433</a>, PubMed:<a href="http://www.uniprot.org/citations/9616126" target="\_blank">9616126</a>). Also functions as a lipid phosphatase, removing the phosphate in



the D3 position of the inositol ring of PtdIns(3,4,5)P3/phosphatidylinositol 3,4,5- trisphosphate, PtdIns(3,4)P2/phosphatidylinositol 3,4-diphosphate and PtdIns3P/phosphatidylinositol 3-phosphate with a preference for PtdIns(3,4,5)P3 (PubMed:<a

with a preference for PtdIns(3,4,5)P3 (PubMed:<a href="http://www.uniprot.org/citations/16824732" target=" blank">16824732</a>, PubMed:<a href="http://www.uniprot.org/citations/26504226" target="blank">26504226</a>, PubMed:<a href="http://www.uniprot.org/citations/9593664" target=" blank">9593664</a>, PubMed:<a href="http://www.uniprot.org/citations/9811831" target=" blank">9811831</a>). Furthermore, this enzyme can also act as a cytosolic inositol 3-phosphatase acting on Ins(1,3,4,5,6)P5/inositol 1,3,4,5,6 pentakisphosphate and possibly Ins(1,3,4,5)P4/1D-myo-inositol 1,3,4,5tetrakisphosphate (PubMed: <a href="http://www.uniprot.org/citations/11418101" target=" blank">11418101</a>, PubMed:<a href="http://www.uniprot.org/citations/15979280" target="blank">15979280</a>). Antagonizes the PI3K-AKT/PKB signaling pathway by dephosphorylating phosphoinositides and thereby modulating cell cycle progression and cell survival (PubMed: <a href="http://www.uniprot.org/citations/31492966" target=" blank">31492966</a>, PubMed:<a href="http://www.uniprot.org/citations/37279284" target="blank">37279284</a>). The unphosphorylated form cooperates with MAGI2 to suppress AKT1 activation (PubMed: <a href="http://www.uniprot.org/citations/11707428" target=" blank">11707428</a>). In motile cells, suppresses the formation of lateral pseudopods and thereby promotes cell polarization and directed movement (PubMed: <a href="http://www.uniprot.org/citations/22279049" target="blank">22279049</a>). Dephosphorylates tyrosine-phosphorylated focal adhesion kinase and inhibits cell migration and integrin-mediated cell spreading and focal adhesion formation (PubMed:<a href="http://www.uniprot.org/citations/22279049" target=" blank">22279049</a>). Required for growth factor-induced epithelial cell migration; growth factor stimulation induces PTEN phosphorylation which changes its binding preference from the p85 regulatory subunit of the PI3K kinase complex to DLC1 and results in translocation of the PTEN-DLC1 complex to the posterior of migrating cells to promote RHOA activation (PubMed:<a href="http://www.uniprot.org/citations/26166433" target=" blank">26166433</a>). Meanwhile, TNS3 switches binding preference from DLC1 to p85 and the TNS3-p85 complex translocates to the leading edge of migrating cells to activate RAC1 activation (PubMed: <a href="http://www.uniprot.org/citations/26166433" target=" blank">26166433</a>). 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 (By similarity). Involved in the regulation of synaptic function in excitatory hippocampal synapses. Recruited to the postsynaptic membrane upon NMDA receptor activation, is required for the modulation of synaptic activity during plasticity. Enhancement of lipid phosphatase activity is able to drive depression of AMPA receptor-mediated synaptic responses, activity required for NMDA receptor-dependent long-term depression (LTD) (By similarity). 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 (PubMed:<a href="http://www.uniprot.org/citations/10468583" target=" blank">10468583</a>, PubMed:<a

## **Cellular Location**

Cytoplasm. Nucleus. Nucleus, PML body. Cell projection, dendritic spine {ECO:0000250|UniProtKB:O54857}. Postsynaptic density {ECO:0000250|UniProtKB:O54857}. 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). Associares with the postsynaptic density in response to NMDAR activation (By similarity) {ECO:0000250|UniProtKB:O54857, ECO:0000269|PubMed:18716620, ECO:0000269|PubMed:19473982}

href="http://www.uniprot.org/citations/18716620" target="blank">18716620</a>).

#### **Tissue Location**

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

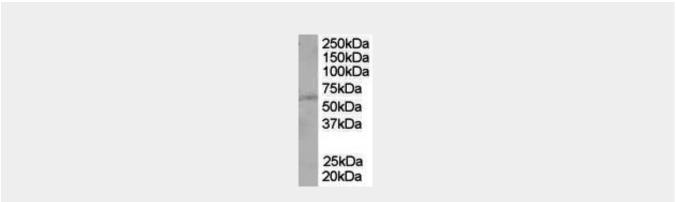


## **Goat anti-PTEN Antibody - Protocols**

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

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

# Goat anti-PTEN Antibody - Images



EB06544 (1  $\mu$ g/ml) staining of A431 lysate (35  $\mu$ g protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.