

## Rabbit PTEN Polyclonal Antibody | anti-PTEN antibody

Phospho-PTEN (Ser370) Antibody

| CATALOG # | HOST   | REACTIVITY        | APPLICATIONS                                                                       |
|-----------|--------|-------------------|------------------------------------------------------------------------------------|
| AAA321655 | Rabbit | Human, Mouse, Rat | ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot |

### PRODUCT SYNONYMS

PTEN; Polyclonal Antibody; Phospho-PTEN (Ser370) Antibody; 10q23del; BZS; DEC; GLM2; MGC11227; MHAM; MMAC1; MMAC1 phosphatase and tensin homolog deleted on chromosome 10; Mutated in multiple advanced cancers 1; Phosphatase and tensin homolog; Phosphatase and tensin like protein; Phosphatidylinositol 3; 4; 5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN; Pten; PTEN\_HUMAN; PTEN1; TEP1; anti-PTEN antibody

### PRODUCT SPECIFICATIONS

|                                                |                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                                           | Rabbit                                                                                                                                                                                                                                                                                                                                   |
| Reactivity                                     | Human, Mouse, Rat                                                                                                                                                                                                                                                                                                                        |
| Clonality                                      | Polyclonal                                                                                                                                                                                                                                                                                                                               |
| Isotype                                        | IgG                                                                                                                                                                                                                                                                                                                                      |
| Specificity                                    | Phospho-PTEN (Ser370) antibody detects endogenous levels of PTEN only when phosphorylated at Serine 370                                                                                                                                                                                                                                  |
| Purity/Purification                            | From purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.                                                                                                                                                                                                  |
| Form/Format                                    | Liquid<br>Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.                                                                                                                                                                                                                                            |
| Concentration                                  | 1mg/ml (varies by lot)                                                                                                                                                                                                                                                                                                                   |
| Sequence Length                                | 403                                                                                                                                                                                                                                                                                                                                      |
| Applicable Applications for anti-PTEN antibody | ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)                                                                                                                                                                                                                                 |
| Immunogen                                      | A synthesized peptide derived from human PTEN around the phosphorylation site of Serine 370                                                                                                                                                                                                                                              |
| Subcellular Location                           | Secreted. May be secreted via a classical signal peptide and reenter into cells with the help of a poly-Arg motif and Cytoplasm. Nucleus. Nucleus, PML Body. Monoubiquitinated form is nuclear. Nonubiquitinated form is cytoplasmic. Colocalized with PML and USP7 in PML nuclear bodies. XIAP/BIRC4 promotes its nuclear localization. |
| Tissue Specificity                             | Expressed at a relatively high level in all adult tissues, including heart, brain, placenta, lung, liver, muscle, kidney and pancreas.                                                                                                                                                                                                   |
| Predicted Cross Reactivity                     | <b>Pig, Bovine, Horse, Rabbit, Dog, Chicken, Xenopus</b>                                                                                                                                                                                                                                                                                 |
| Similarity                                     | Pig (100%), Bovine (100%), Horse (100%), Rabbit (100%), Dog (100%), Chicken (100%), Xenopus (100%)                                                                                                                                                                                                                                       |
| Conjugation                                    | Unconjugated                                                                                                                                                                                                                                                                                                                             |
| Epitope                                        | Phospho Ser370                                                                                                                                                                                                                                                                                                                           |
| Preparation and Storage                        | Store at -20 degree C. Stable for 12 months from date of receipt.                                                                                                                                                                                                                                                                        |



WB (Western Blot)

Western blot analysis of PTEN phosphorylation expression in Vanadate treated HeLa whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



IF (Immunofluorescence)

AAA321655 staining HeLa by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of Phospho-PTEN (Ser370) expression in various lysates



IHC (Immunohistochemistry)

AAA321655 staining human colon cancer tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-PTEN antibody

Description: PTEN a phosphoinositide 3-phosphatase (PIP3) and a tumor suppressor implicated in a wide variety of human cancers. Dephosphorylates inositol phospholipids generated by the activation of the phosphoinositide 3 kinase (PI3K).

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:26504226). 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 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.

Subunit Structure: Monomer. The unphosphorylated form interacts with the second PDZ domain of AIP1 and with DLG1 and MAST2 in vitro (PubMed:10646847, PubMed:10760291, PubMed:11707428). Interacts with MAGI2, MAGI3, MAST1 and MAST3, but neither with MAST4 nor with DLG5; interaction with MAGI2 increases protein stability (PubMed:10748157, PubMed:15951562). Interacts with NEDD4 (PubMed:17218260). Interacts with NDFIP1 and NDFIP2; in the presence of NEDD4 or ITCH, this interaction promotes PTEN ubiquitination (PubMed:25801959, PubMed:20534535). Interacts (via C2 domain) with FRK (PubMed:19345329). Interacts with USP7; the interaction is direct (PubMed:18716620). Interacts with ROCK1 (By similarity). Interacts with XIAP/BIRC4 (PubMed:19473982). Interacts with STK11; the interaction phosphorylates PTEN (PubMed:15987703). Interacts with PPP1R16B (PubMed:25007873). Interacts with NOP53; regulates PTEN phosphorylation and increases its stability (PubMed:15355975).

Post-translational Modifications: Constitutively phosphorylated by CK2 under normal conditions. Phosphorylated in vitro by MAST1, MAST2, MAST3 and STK11. Phosphorylation results in an inhibited activity towards PIP3. Phosphorylation can both inhibit or promote PDZ-binding. Phosphorylation at Tyr-336 by FRK/PTK5 protects this protein from ubiquitin-mediated degradation probably by inhibiting its binding to NEDD4. Phosphorylation by ROCK1 is essential for its stability and activity. Phosphorylation by PLK3 promotes its stability and prevents its degradation by the proteasome. Monoubiquitinated; monoubiquitination is increased in presence of retinoic acid. Deubiquitinated by USP7; leading to its nuclear exclusion. Monoubiquitination of one of either Lys-13 and Lys-289 amino acid is sufficient to modulate PTEN compartmentalization. Ubiquitinated by XIAP/BIRC4.

Similarity: The C2 domain binds phospholipid membranes in vitro in a Ca2+-independent manner; this binding is important for its tumor suppressor function.

NCBI AND UNIPROT INFORMATION

|                                  |                                                                                                                   |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------|
| NCBI GI #                        | 73765544                                                                                                          |
| NCBI GeneID                      | 5728                                                                                                              |
| NCBI Accession #                 | NP_000305.3                                                                                                       |
| NCBI GenBank Nucleotide #        | NM_000314.6                                                                                                       |
| UniProt Accession #              | P60484; O00633; O02679; Q6ICT7; B2R904; F2YHV0                                                                    |
| Molecular Weight                 | Observed: 54 kDa<br>Predicted: 48 kDa                                                                             |
| NCBI Official Full Name          | phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN isoform PTEN |
| NCBI Official Synonym Full Names | phosphatase and tensin homolog                                                                                    |
| NCBI Official Symbol             | PTEN                                                                                                              |
| NCBI Official Synonym Symbols    | BZS; DEC; CWS1; GLM2; MHAM; TEP1; MMAC1; PTEN1; 10q23del; PTENbeta                                                |
| NCBI Protein Information         | phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN              |
| UniProt Protein Name             | Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN              |
| UniProt Gene Name                | PTEN                                                                                                              |
| UniProt Synonym Gene Names       | MMAC1; TEP1                                                                                                       |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | [contact@aaabiotech.com](mailto:contact@aaabiotech.com)  
Online datasheet: <https://stage.aaabiotech.com/polyclonal/pten-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/321655>