

## Product datasheet for **TA385075**

### PTEN Mouse Monoclonal Antibody [Clone ID: 7H2-6G9-6H5]

#### Product data:

Product Type:	Primary Antibodies
Clone Name:	7H2-6G9-6H5
Applications:	IHC
Recommended Dilution:	IHC: 1/100-200
Reactivity:	Human
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Synthetic peptide conjugated to KLH.
Formulation:	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.03% Proclin 300, pH 7.3.
Concentration:	lot specific
Purification:	Affinity Purified
Conjugation:	Unconjugated
Storage:	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Stability:	1 year
Predicted Protein Size:	54kDa
Gene Name:	phosphatase and tensin homolog
Database Link:	<a href="#">Entrez Gene 5728 Human P60484</a>



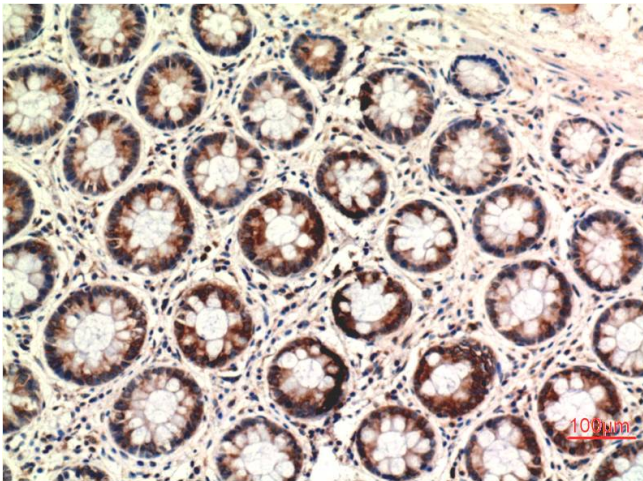
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**Background:**

Swiss-Prot Acc.P60484.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  $\text{PtdIns}(3,4,5)\text{P}_3 > \text{PtdIns}(3,4)\text{P}_2 > \text{PtdIns}3\text{P} > \text{Ins}(1,3,4,5)\text{P}_4$  (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.

**Synonyms:**

10q23del; BZS; MGC11227; MHAM; MMAC1; PTEN1; TEP1

**Product images:**

Immunohistochemistry analysis of paraffin-embedded Human Colon Carcinoma Tissue using PTEN (7H2) antibody. High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.