10320 Camino Santa Fe, Suite G
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Tel: 858.875.1900 Fax: 858.875.1999

# PTEN
**Rabbit Monoclonal antibody(Mab)**
**Catalog # AD80305**

## Specification

### PTEN - Product info

| | |
|---|---|
| Application | **IHC-P** |
| Primary Accession | P60484 |
| Reactivity | **Human** |
| Host | **Rabbit** |
| Clonality | **Monoclonal** |
| Calculated MW | **47166** |

### PTEN - Additional info

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|---|---|
| Gene ID | **5728** |
| Gene Name | **PTEN** |

**Other Names**
Phosphatidylinositol 3, 4, 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

**Dilution**
IHC-P~~Ready-to-use

**Storage**
Maintain refrigerated at 2-8°C

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|---|---|
| Precautions | **PTEN Antibody is for research use only and not for use in diagnostic or therapeutic procedures.** |

### PTEN - 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: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.** |
| 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 - Protocols**

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

**PTEN - Images**

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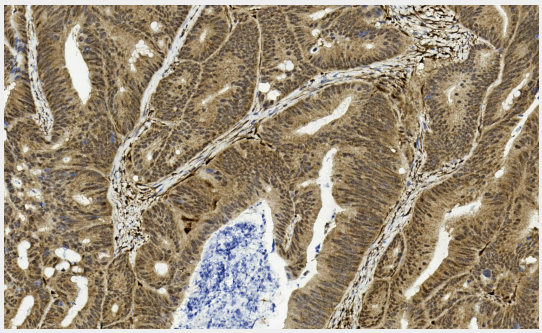
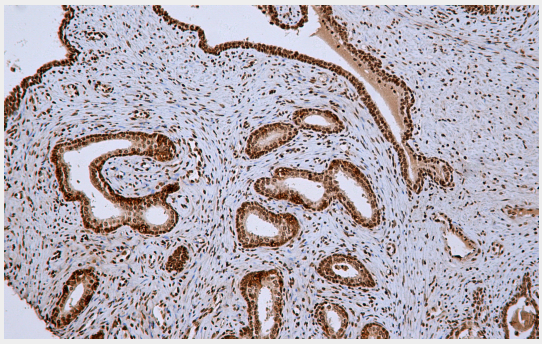


Colon cancer



Immunohistochemical analysis of paraffin-embedded prostatic cancer tissue using AD80260 performed on the Abcarta® FAIP-30 Fully automated IHC platform.Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a Citrate buffer (pH6. 0).Samples were incubated with primary antibody(Ready-to-use) for 15 min at room temperature. AmpSeeTM Detection Systems（Abcepta:AR005） was used as the secondary antibody.