

Product Information



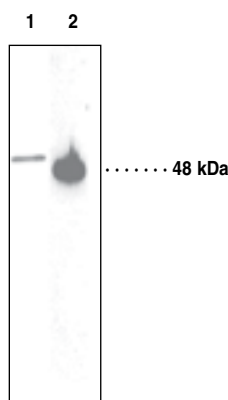
PTEN Polyclonal Antibody

Item No. 10005059 • Lot No. XXXXX

Sold under license from Millipore
US Patents: 6,262,242 and 6,482,795
Pending Patent: 20030139324

Synonyms:	MMAC1, Phosphatase and Tensin Homolog on Chromosome 10, Phosphoinositide 3-phosphatase, TEPI
Contents:	This vial contains <i>lot specific</i> µg peptide affinity-purified IgG in <i>lot specific</i> µl TBS, pH 7.4, containing 50% glycerol, <i>lot specific</i> % BSA, and 0.02% sodium azide
Host:	Rabbit
Antigen:	Human PTEN amino acids 254-270 (KVEFFHKQNKMLKKDKM). The sequence is identical among human, chimpanzee, mouse, rat, and dog.
Cross-reactivity:	(+) Human, mouse, and rat PTEN protein; other species not tested.
Stability:	≥1 year at -20°C
Applications:	For detection of PTEN by western blot (WB) and immunohistochemistry (IHC) on formalin-fixed paraffin-embedded sections. Recommended starting dilutions are: <i>lot specific</i> µg/ml for WB. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

PTEN (phosphatase and tensin homology on chromosome 10) dephosphorylates proteins and lipids such as AKT and phosphatidylinositol 3,4,5-trisphosphate (PIP₃) and therefore functions as a key regulatory enzyme in a central signal transduction pathway. It also interacts with proteins Shc and FAK to promote apoptosis when necessary and to regulate cell division and migration.¹ PTEN is considered a tumor suppressor as loss-of-function mutations in PTEN often result in human cancers including melanoma and prostate carcinoma.^{2,3} PTEN is expressed in almost all tissues of the body as a 403 amino acid protein with an estimated molecular weight of 47 kDa.⁴



Lane 1: A431 cell lysate (50 µg)
Lane 2: Rat brain (30 µg)

Laboratory Procedures

Immunoperoxidase staining procedure

A. Paraffin sections

1. Deparaffinize sections 3 times with xylene or xylene substitute, 5 minutes each.
2. Rehydrate sections 2 times with 100% ethanol, 5 minutes each, followed by 95%, 90%, 80%, 70%, 50% ethanol, 5 minutes each.
3. Rinse sections in distilled water for 5 minutes.
4. Block endogenous peroxidase activity with 0.3% H₂O₂ in water (use methanol instead of water in case of strong endogenous peroxidase activity) for 15 minutes.
5. Wash sections 3 times in TBS containing 0.1% Tween 20 (TBST), pH 7.4, 5 minutes each.
6. Incubate sections with 5% normal serum (same species as the host of secondary antibody) for 30 minutes.
7. Rinse sections 3 times with TBST, pH 7.4, 5 minutes each.
8. Incubate sections with a 2 µg/ml dilution of PTEN polyclonal antibody (recommended starting dilution. Optimal dilution to be determined by end user) overnight at room temperature.
9. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.
10. Incubate sections for 30 minutes with biotinylated secondary antibody, using a dilution as recommended by provider.
11. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.
12. Incubate sections for 30 minutes with ABC reagent, using a dilution as recommended by provider.
13. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.
14. Incubate sections in peroxidase substrate solution. Check staining under a microscope frequently. When

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery.**

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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desired staining intensity is achieved, rinse sections with distilled water thoroughly.

15. Counter stain sections if desired. Rinse sections thoroughly after counter stain.
 16. Dehydrate sections through 50%, 70%, 80%, 90%, 95%, 100% ethanol (2 times) for 5 minutes each.
 17. Clear sections 3 times with xylene or xylene substitute, 5 minutes.
 18. Mount sections with coverslips.
- B. Fresh Frozen Sections
1. After briefly fixing sections with an appropriate fixative (e.g., 10% formaldehyde for 2 minutes), sections are washed 3 times with TBS, pH 7.4, 5 minutes each.
 2. Follow steps 4-18 of the procedure recommended for paraffin section.

References

1. Steck, P.A., Pershouse, M.A., Jasser, S.A., *et al.* Identification of a candidate tumour suppressor gene, MMAC1, at chromosome 10q23.3 that is mutated in multiple advanced cancers. *Nature Genet.* **15**, 356-362 (1997).
2. Di Cristofano, A. and Pandolfi, P.P. The multiple roles of PTEN in tumor suppression. *Cell* **100**, 387-390 (2000).
3. Vivanco, I. and Sawyers, C.L. The phosphatidylinositol 3-kinase-AKT pathway in human cancer. *Nature Reviews Cancer* **2**, 489-501 (2002).
4. Dahia, P.L.M. PTEN, a unique tumor suppressor gene. *Endocrine-Related Cancer* **7**, 115-129 (2000).

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