

PTEN Antibody

✓ 100 µl
(10 Western mini-blots)

rev. 11/13/08

This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

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Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, R, Mk, Hm	54 kDa	Rabbit**

Background: PTEN (phosphatase and tensin homologue deleted on chromosome ten), also referred to as MMAC (mutated in multiple advanced cancers) phosphatase, is a tumor suppressor implicated in a wide variety of human cancers (1). PTEN encodes the 403 amino acid polypeptide originally described as a dual-specificity protein phosphatase (2). The main substrates of PTEN are inositol phospholipids generated by the activation of the phosphoinositide 3-kinase (PI3K) (3). PTEN is a major negative regulator of the PI3K/Akt signaling pathway (1,4-5). PTEN possesses a carboxy-terminal noncatalytic regulatory domain containing three phosphorylation sites (Ser380, Thr382 and Thr383), which regulates its stability and may play an important role in control of its biological activity (6,7). PTEN also regulates p53 protein levels and activity (8) and is involved in G protein coupled signaling during chemotaxis (9,10).

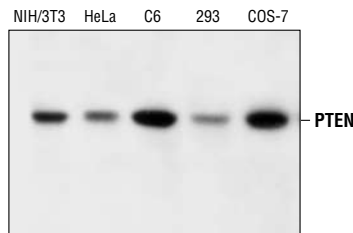
Specificity/Sensitivity: PTEN Antibody detects endogenous levels of total PTEN protein. The antibody does not cross-react with related proteins.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) derived from the sequence of human PTEN. Antibodies are purified by protein A and peptide affinity chromatography.

Selected Application References:

Wen, S. et al. (2001) PTEN controls tumor-induced angiogenesis. *Proc. Natl. Acad. Sci. USA* 98, 4622–4627. Application: W.

Freeman, D.J. et al. (2003) PTEN tumor suppressor regulates p53 protein levels and activity through phosphatase-dependent and -independent mechanisms. *Cancer Cell* 3, 117–130. Applications: IP, W.



Western blot analysis of extracts from various cell lines grown in media with 10% FBS, using PTEN Antibody.

Background References:

- (1) Cantley, L.C. and Neel, B.G. (1999) *Proc. Natl. Acad. Sci. USA* 96, 4240–4245.
- (2) Myers, M.P. et al. (1997) *Proc. Natl. Acad. Sci. USA* 94, 9052–9057.
- (3) Myers, M.P. et al. (1998) *Proc. Natl. Acad. Sci. USA* 95, 13513–13518.
- (4) Wan, X. and Helman, L.J. (2003) *Oncogene* 22, 8205–8211.
- (5) Wu, X. et al. (1998) *Proc. Natl. Acad. Sci. USA* 95, 15587–15591.
- (6) Vazquez, F. et al. (2000) *Mol. Cell. Biol.* 20, 5010–5018.
- (7) Torres, J. and Pulido, R. (2001) *J. Biol. Chem.* 276, 993–998.
- (8) Freeman, D.J. et al. (2003) *Cancer Cell* 3, 117–130.
- (9) Funamoto, S. et al. (2002) *Cell* 109, 611–623.
- (10) Iijima, M. and Devreotes, P. (2002) *Cell* 109, 599–610.

Entrez-Gene ID #5728
Swiss-Prot Acc. #P60484

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by Western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

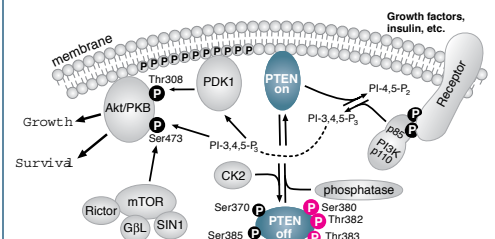
Western Blotting 1:1000
Immunoprecipitation 1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

Companion Products:

PhosphoPlus® Akt (Ser473) Antibody Kit #9270
Phospho-Akt (Ser473) Antibody #9271
PTEN (138G6) Rabbit mAb #9559
Phospho-PTEN (Ser380) Antibody #9551
Phospho-Akt (Thr308) Antibody #9275
Phospho-Akt (Ser473) (736E11) Rabbit mAb (IHC Specific) #3787
Cell Lysis Buffer (10X) #9803
Akt Kinase Assay Kit (Nonradioactive) #9840
LY294002 (PI3 Kinase Inhibitor) #9901
Phospho-Akt Pathway Sampler Kit #9916
Anti-rabbit IgG, HRP-linked Antibody #7074
Prestained Protein Marker, Broad Range (Premixed Format) #7720
Biotinylated Protein Ladder Detection Pack #7727
20X LumiGLO® Reagent and 20X Peroxide #7003
Phospho-PTEN (Ser380/Thr382/383) Antibody #9554

Please visit www.cellsignal.com for a complete listing of recommended companion products.



IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% sequence homology.