

# PTEN (D4.3) XP<sup>®</sup> Rabbit mAb

- Small 100 µl  
(10 western blots)
- Large 300 µl  
(30 western blots)
- Petite 40 µl  
(4 western blots)

rev. 01/13/12

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IHC-P Endogenous	H, M, R, Mk, (C)	54 kDa	Rabbit**

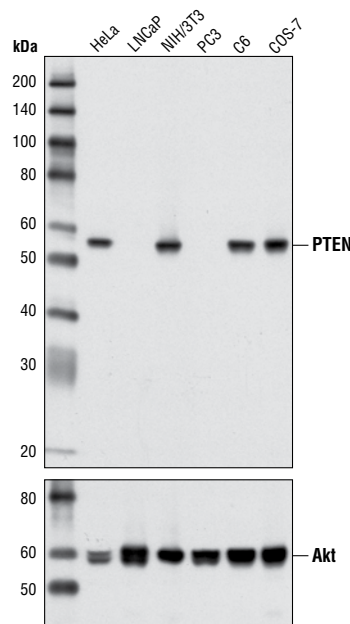
**Background:** PTEN (phosphatase and tensin homologue deleted on chromosome ten), also referred to as MMAC (mutated in multiple advanced cancers) phosphatase, is a tumor suppressor implicated in a wide variety of human cancers (1). PTEN encodes a 403 amino acid polypeptide originally described as a 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 with three phosphorylation sites (Ser380, Thr382 and Thr383) that regulate PTEN stability and may affect its biological activity (6,7). PTEN 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.

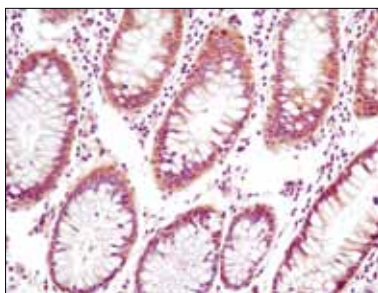
**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues in the carboxy-terminal sequence of human PTEN.

#### Background References:

- (1) Cantley, L.C. and Neel, B.G. (1999) *Proc Natl Acad Sci USA* 96, 4240-5.
- (2) Myers, M.P. et al. (1997) *Proc Natl Acad Sci USA* 94, 9052-7.
- (3) Myers, M.P. et al. (1998) *Proc Natl Acad Sci USA* 95, 13513-8.
- (4) Wan, X. and Helman, L.J. (2003) *Oncogene* 22, 8205-11.
- (5) Wu, X. et al. (1998) *Proc Natl Acad Sci USA* 95, 15587-91.
- (6) Vazquez, F. et al. (2000) *Mol Cell Biol* 20, 5010-8.
- (7) Torres, J. and Pulido, R. (2001) *J Biol Chem* 276, 993-8.
- (8) Freeman, D.J. et al. (2003) *Cancer Cell* 3, 117-30.
- (9) Funamoto, S. et al. (2002) *Cell* 109, 611-23.
- (10) Iijima, M. and Devreotes, P. (2002) *Cell* 109, 599-610



Western blot analysis of extracts from various cell lines using PTEN (D4.3) XP<sup>®</sup> Rabbit mAb (upper) and Akt (pan) (C67E7) Rabbit mAb #4691 (lower).



Immunohistochemical analysis of paraffin-embedded human colon using PTEN (D4.3) XP<sup>®</sup> Rabbit mAb.

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, 50% glycerol and less than 0.02% sodium azide. 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:

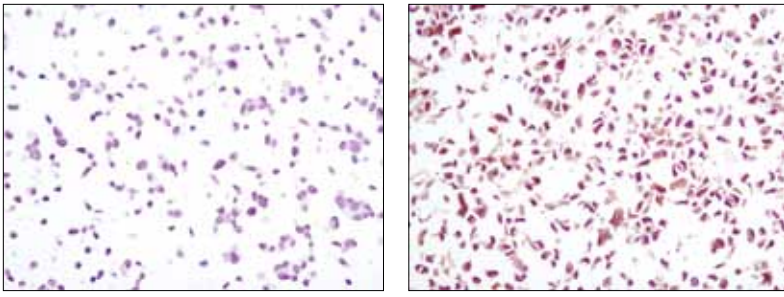
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:125†
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain <sup>®</sup> Antibody Diluent #8112
Detection reagent:	SignalStain <sup>®</sup> Boost (HRP, Rabbit) #8114

† Optimal IHC dilutions determined using SignalStain<sup>®</sup> Boost IHC Detection Reagent.

For application specific protocols please see the web page for this product at [www.cellsignaling.com](http://www.cellsignaling.com).

Please visit [www.cellsignaling.com](http://www.cellsignaling.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.



*Immunohistochemical analysis using PTEN (D4.3) XP® Rabbit mAb on SignalSlide(TM) PTEN IHC Controls #8106 (paraffin-embedded LNCaP (left) and NIH/3T3 (right) cells).*