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PTEN (D4.3) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, W-S, IP, IHC-Bond, IHC-P	H M R Mk Dg	Endogenous	54	Rabbit IgG	#P60484	5728

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:50
IHC Leica Bond	1:50 - 1:200
Immunohistochemistry (Paraffin)	1:125

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.

For a carrier free (BSA and azide free) version of this product see product #99813.

Specificity / Sensitivity

PTEN (D4.3) XP® Rabbit mAb detects endogenous levels of total PTEN protein. The antibody may also detect translational variants (PTEN-long/PTENα and PTENβ) at 70 kD.

Species predicted to react based on 100% sequence homology

Chicken

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

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).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

WB: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation **IHC-Bond:** IHC Leica Bond **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken
Dm: D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae
Ce: C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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Limited Uses

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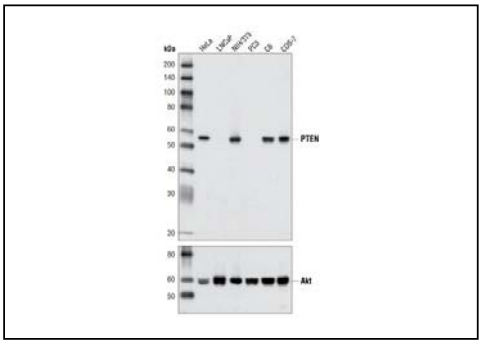
Revision 5

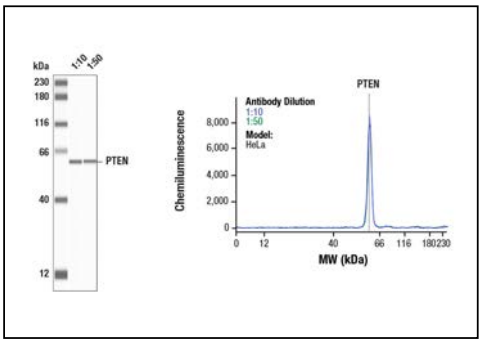
#9188

PTEN (D4.3) XP® Rabbit mAb

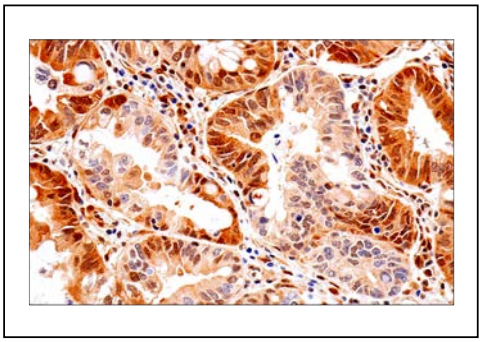
Western blot analysis of extracts from various cell lines using PTEN (D4.3) XP® Rabbit mAb (upper) and Akt (pan) (C67E7) Rabbit mAb #4691 (lower).



Simple Western™ analysis of lysates (1 mg/mL) from HeLa cells using PTEN (D4.3) XP® Rabbit mAb #9188. The virtual lane view (left) shows the target band (as indicated) at 1:10 and 1:50 dilutions of primary antibody. The corresponding electropherogram view (right) plots chemiluminescence by molecular weight along the capillary at 1:10 (blue line) and 1:50 (green line) dilutions of primary antibody. This experiment was performed under reducing conditions on the Jess™ Simple Western instrument from ProteinSimple, a BioTechne brand, using the 12-230 kDa separation module.



Immunohistochemical analysis of paraffin-embedded human esophageal adenocarcinoma using PTEN (D4.3) XP® Rabbit mAb performed on the Leica BOND RX.

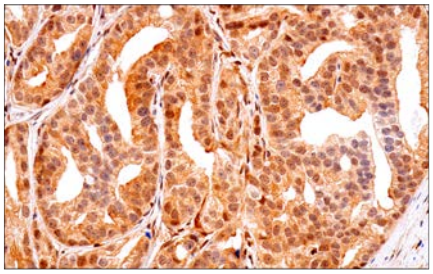


Revision 5

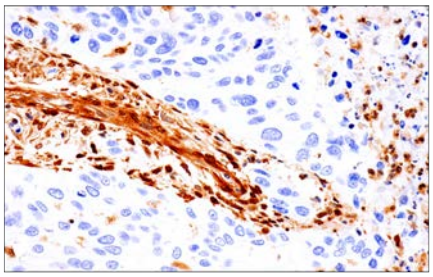
#9188

PTEN (D4.3) XP® Rabbit mAb

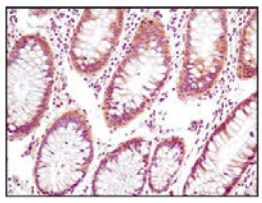
Immunohistochemical analysis of paraffin-embedded human prostate adenocarcinoma using PTEN (D4.3) XP® Rabbit mAb performed on the Leica BOND RX.



Immunohistochemical analysis of paraffin-embedded human squamous cell lung carcinoma using PTEN (D4.3) XP® Rabbit mAb performed on the Leica BOND RX.



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



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PTEN (D4.3) XP® Rabbit mAb

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).