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Non-phospho PTEN (Ser380/Thr382/Thr383) (D2D11) Rabbit mAb

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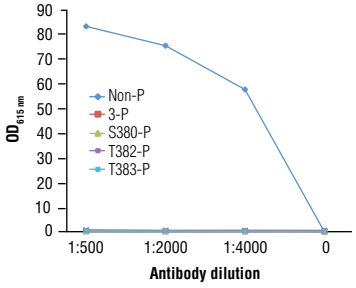
Entrez-Gene ID #5728
Swiss-Prot Acc. #P60484

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP Endogenous	H, M, R, Mk	55 kDa	Rabbit IgG**

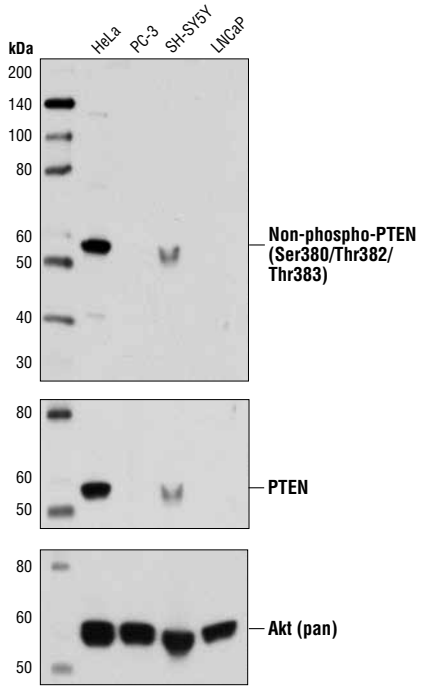
Background: PTEN (phosphatase and tensin homologue deleted on chromosome ten), also referred to as MMAC (mutated in multiple advanced cancers) phosphatase, is a tumor suppressor implicated in a wide variety of human cancers (1). PTEN encodes a 403 amino acid polypeptide originally described as a dual-specificity 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: Non-phospho PTEN (Ser380/Thr382/Thr383) (D2D11) Rabbit mAb detects endogenous levels of PTEN protein only when dephosphorylated at Ser380, Thr382, and Thr383.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic non-phosphopeptide corresponding to residues surrounding Ser380/Thr382/Thr383 of human PTEN protein.



Specificity of Non-phospho PTEN (Ser380/Thr382/Thr383) (D2D11) Rabbit mAb was determined by peptide ELISA. The graph depicts the binding of various dilutions of the antibody (1:500, 1:2000, 1:4000) to pre-coated PTEN (Ser380/Thr382/Thr383) non-phosphopeptide (Non-P), PTEN (Ser380/Thr382/Thr383) phosphopeptide (3-P), PTEN (Ser380) phosphopeptide (S380-P), PTEN (Thr382) phosphopeptide (T382-P), and PTEN (Thr383) phosphopeptide (T383-P).



◀ *Western blot analysis of extracts from various cell lines using Non-phospho PTEN (Ser380/Thr382/Thr383) (D2D11) Rabbit mAb (upper), PTEN (D4.3) XP® Rabbit mAb #9188 (middle) or Akt (pan) (C67E7) Rabbit mAb #4691 (lower).*

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.

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

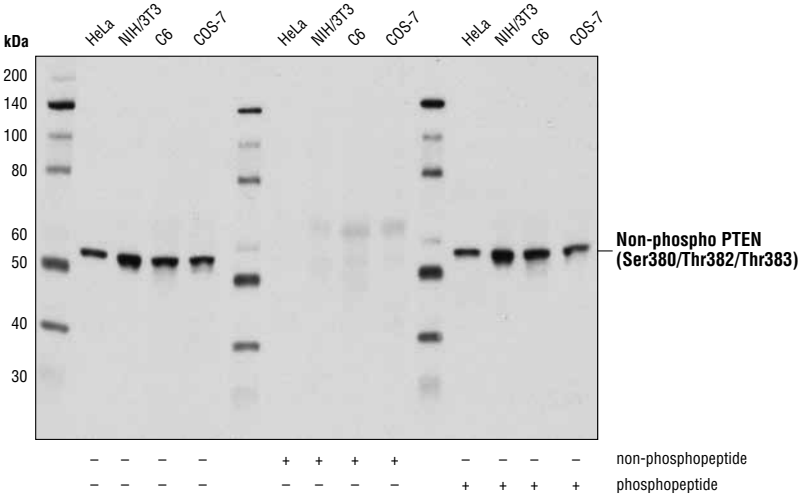
For application specific protocols please see the web page for this product at www.cellsignal.com.

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

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.

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 **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Western blot analysis of extracts from various cell lines using Non-phospho PTEN (Ser380/Thr382/Thr383) (D2D11) Rabbit mAb. The non-phosphospecificity of the antibody was verified by preincubating the antibody without peptide (-), with PTEN (Ser380/Thr382/Thr383) non-phosphopeptide (+), or with PTEN (Ser380/Thr382/Thr383) phosphopeptide (+) prior to incubating the membrane.