Human/Mouse/Rat Phospho-PTEN (S380) Antibody

Antigen Affinity-purified Polyclonal Rabbit IgG
Catalog Number: AF2838

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, and rat PTEN when phosphorylated at S380 in Western blots.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	Phosphopeptide containing human PTEN S380 site
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

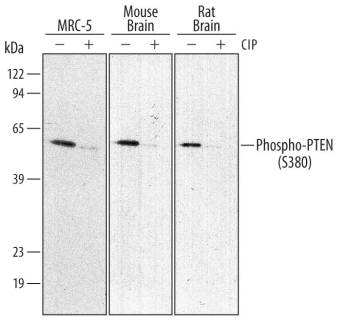
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA

Western Blot



Detection of Human, Mouse, and Rat Phospho-PTEN (S380) by Western Blot.
Western blot shows Human/Mouse/Rat PTEN Monoclonal Antibody (Catalog # MAB847) immunopreciptate of MRC-5 human embryonic lung fibroblast cell line, mouse and rat brain tissue untreated (-) or treated (+) with 300 U/mL CIP for 1 hour. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-Human/Mouse/Rat Phospho-PTEN (S380) Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2838), followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for Phospho-PTEN (S380) at approximately 54 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The tumor suppressor gene PTEN (phosphatase and tensin homolog deleted on chromosome 10), also known as MMAC1 (mutated in multiple advanced cancers 1), encodes a phosphatase that contains the catalytic signature motif (HCXXGXXRS/T) found in all members of the protein tyrosine phosphatase family. *In vitro*, the recombinant PTEN has both lipid phosphatase and protein phosphatase activities (1, 2). Interestingly, accumulating evidence has shown that the tumor suppressor activity of PTEN relies on its ability to dephosphorylate phosphatidylinositol (3, 4, 5)-triphosphate specifically at position 3 of the inositol ring (3). This activity reduces the levels of phosphatidylinositol (3, 4, 5)-triphosphate which is specifically produced from phosphatidylinositol (4, 5)-diphosphate by PI 3-kinase upon activation by a variety of stimuli. Therefore, PTEN antagonizes PI 3-kinase-induced downstream signaling events and cellular processes including cell growth, apoptosis and cell motility. *In vivo*, the importance of PTEN catalytic activity in its tumor suppressor functions is underscored by the fact that the majority of PTEN missense mutations detected in tumor specimens target the phosphatase domain and cause a loss in PTEN phosphatase activity (4).

References:

1. Maehama, T. and J. Dixon (1998) J. Biol. Chem. **273**:13375.
2. Das, S. *et al*. (2003) Proc. Natl. Acad. Sci. USA **100**:7491.
3. Myers, M. *et al*. (1998) Proc. Natl. Acad. Sci. USA **95**:13513.
4. Waite, K. and C. Eng (2002) Am. J. Hum. Genet. **70**:829.

PRODUCT SPECIFIC NOTICES

This product is covered under US Pat. Nos. 6,262,242 and 6,482,795 and other pending patent applications.

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