Background: PTEN (phosphatase and tensin homologue deleted on chromosome ten)/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 non-catalytic 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 (138G6) Rabbit mAb detects endogenous levels of total PTEN protein.

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

Background References:

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.

Recommended Antibody Dilutions:
Western Blotting 1:1000
Immunoprecipitation 1:100
Immunohistochemistry (Paraffin) 1:200†

†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

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.

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.

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Immunohistochemical analysis of paraffin-embedded cell pellets demonstrating the specificity of PTEN (138G6) Rabbit mAb: DU145, HT-29 and MCF-7 (PTEN positive) and Jurkat, MDA-MB-468 and LNCaP (PTEN negative).

Immunohistochemical analysis of paraffin-embedded MDA-MB-468 xenograft using Phospho-Akt (Ser473) (D9E) Rabbit mAb #4060 (left) or PTEN (138G6) Rabbit mAb (right). Note the presence of P-Akt staining in the PTEN deficient MDA-MB-468 cells.