SANTA CRUZ BIOTECHNOLOGY, INC.

PTEN (C-20)-R: sc-6817-R

BACKGROUND

As human tumors progress to advanced stages, one genetic alteration that occurs at high frequency is a loss of heterozygosity (LOH) at chromosome 10q23.31. Mapping of homozygous deletions on this chromosome led to the isolation of the PTEN gene, also designated MMAC1 (for mutated in multiple advanced cancers) and TEP1. This candidate tumor suppressor gene exhibits a high frequency of mutations in human glioblastomas and is also mutated in other cancers, including sporadic brain, breast, kidney and prostate cancers. PTEN has been associated with Cowden disease, an autosomal dominant cancer predisposition syndrome. The PTEN gene product is a putative protein tyrosine phosphatase that is localized to the cytoplasm, and it shares extensive homology with the cytoskeletal proteins tensin and auxilin. Gene transfer studies have indicated that the phosphatase domain of PTEN is essential for growth suppression of glioma cells.

CHROMOSOMAL LOCATION

Genetic locus: PTEN (human) mapping to 10q23.31; Pten (mouse) mapping to 19 C1.

SOURCE

PTEN (C-20)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PTEN of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6817 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTEN (C-20)-R is recommended for detection of PTEN of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PTEN (C-20)-R is also recommended for detection of PTEN in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for PTEN siRNA (h): sc-29459, PTEN siRNA (m): sc-36326, PTEN siRNA (r): sc-61873, PTEN shRNA Plasmid (h): sc-29459-SH, PTEN shRNA Plasmid (m): sc-36326-SH, PTEN shRNA Plasmid (r): sc-61873-SH, PTEN shRNA (h) Lentiviral Particles: sc-29459-V, PTEN shRNA (m) Lentiviral Particles: sc-36326-V and PTEN shRNA (r) Lentiviral Particles: sc-61873-V.

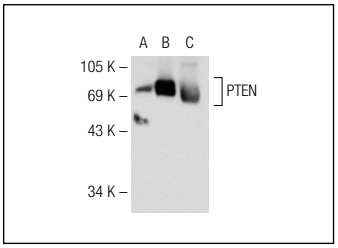
Molecular Weight of PTEN: 55 kDa.

Positive Controls: PTEN (h): 293T Lysate: sc-159790, PTEN (m): 293T Lysate: sc-122834 or HeLa whole cell lysate: sc-2200.

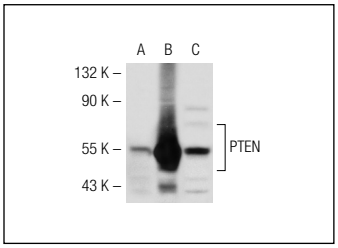
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



PTEN (C-20)-R: sc-6817-R. Western blot analysis of PTEN expression in non-transfected 293T: sc-117752 (**A**), human PTEN transfected 293T: sc-159790 (**B**) and WI-38 (**C**) whole cell lysates.



PTEN (C-20)-R: sc-6817-R. Western blot analysis of PTEN expression in non-transfected 293T: sc-117752 (**A**), mouse PTEN transfected 293T: sc-122834 (**B**) and HeLa (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ge, N., et al. 2000. Expression of PTEN in PTEN-deficient multiple myeloma cells abolishes tumor growth *in vivo*. Oncogene 19: 4091-4095.
2. Koul, D., et al. 2002. Motif analysis of the tumor suppressor gene MMAC/PTEN identifies tyrosines critical for tumor suppression and lipid phosphatase activity. Oncogene 21: 2357-2364.
3. Moncalero, V.L., et al. 2011. Different conformations of phosphatase and tensin homolog, deleted on chromosome 10 (PTEN) protein within the nucleus and cytoplasm of neurons. PLoS ONE 6: e18857.
4. Tan, G., et al. 2012. MicroRNA-22 promotes cell survival upon UV radiation by repressing PTEN. Biochem. Biophys. Res. Commun. 417: 546-551.
5. Niu, J., et al. 2012. DNA damage induces NF-κB-dependent microRNA-21 up-regulation and promotes breast cancer cell invasion. J. Biol. Chem. 287: 21783-21795.
6. Thomé, C.H., et al. 2012. Linker for activation of T-cell family member2 (LAT2) a lipid raft adaptor protein for AKT signaling, is an early mediator of alkylphospholipid anti-leukemic activity. Mol. Cell. Proteomics 11: 1898-1912.
7. Jiang, H., et al. 2014. Quantitatively controlling expression of miR-17~92 determines colon tumor progression in a mouse tumor model. Am. J. Pathol. 184: 1355-1368.

RESEARCH USE

For research use only, not for use in diagnostic procedures.