

# PTEN (B-1): sc-133197

## 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. 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 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 (B-1) is a mouse monoclonal antibody raised against acids 1-403 representing full length PTEN of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PTEN (B-1) is recommended for detection of PTEN of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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 (m): 293T Lysate: sc-122834, PTEN (h): 293T Lysate: sc-159790 or WI-38 whole cell lysate: sc-364260.

## RESEARCH USE

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

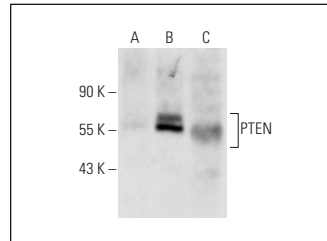
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

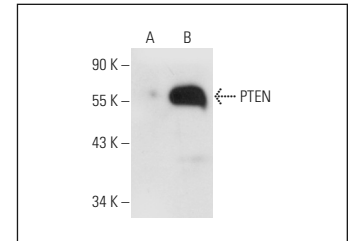
## STORAGE

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

## DATA



PTEN (B-1): sc-133197. 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 (B-1): sc-133197. Western blot analysis of PTEN expression in non-transfected: sc-117752 (A) and mouse PTEN transfected: sc-122834 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Chen, X. and Qin, Z. 2011. Post-transcriptional regulation by microRNA-21 and let-7a microRNA in paediatric cholesteatoma. *J. Int. Med. Res.* 39: 2110-2118.
- Zanin-Zhorov, A., et al. 2012. Scaffold protein Disc large homolog 1 is required for T-cell receptor-induced activation of regulatory T-cell function. *Proc. Natl. Acad. Sci. USA* 109: 1625-1630.
- Horman, S.R., et al. 2013. Akt-mediated phosphorylation of argonaute 2 downregulates cleavage and upregulates translational repression of microRNA targets. *Mol. Cell* 50: 356-367.
- David, D., et al. 2014. Smurf2 E3 ubiquitin ligase modulates proliferation and invasiveness of breast cancer cells in a CNKSR2 dependent manner. *Cell Div.* 9: 2.
- Carrà, G., et al. 2017. Therapeutic inhibition of USP7-PTEN network in chronic lymphocytic leukemia: a strategy to overcome TP53 mutated/deleted clones. *Oncotarget* 8: 35508-35522.
- Shen, J., et al. 2018. Downregulation of microRNA-147 inhibits cell proliferation and increases the chemosensitivity of gastric cancer cells to 5-fluorouracil by directly targeting PTEN. *Oncol. Res.* 26: 901-911.
- Wang, Q., et al. 2019. MicroRNA-98/PTEN/Akt pathway inhibits cell proliferation and malignant progression of hypopharyngeal carcinoma by MTDH. *Oncol. Rep.* 41: 863-874.
- Wang, Z., et al. 2019. The role of P2Y6 receptors in the maintenance of neuropathic pain and its improvement of oxidative stress in rats. *J. Cell. Biochem.* 120: 17123-17130.

## CONJUGATES

See **PTEN (A2B1): sc-7974** for PTEN antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.