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PTEN (h): 293T Lysate: sc-159790

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.

REFERENCES

1. Bigner, S.H., et al. 1988. Specific chromosomal abnormalities in malignant human gliomas. *Cancer Res.* 48: 405-411.
2. James, C.D., et al. 1988. Clonal genomic alterations in glioma malignancy stages. *Cancer Res.* 48: 5546-5551.
3. Steck, P.A., et al. 1997. Identification of a candidate tumour suppressor gene, MMAC1, at chromosome 10q23.3 that is mutated in multiple advanced cancers. *Nat. Genet.* 15: 356-362.
4. Li, J., et al. 1997. PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer. *Science* 275: 1943-1947.
5. Liaw, D., et al. 1997. Germ-line mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome. *Nat. Genet.* 16: 64-67.
6. Nelen, M.R., et al. 1997. Germline mutations in the PTEN/ MMAC1 gene in patients with Cowden disease. *Hum. Mol. Genet.* 6: 1383-1387.
7. Furnari, F.B., et al. 1997. Growth suppression of glioma cells by PTEN requires a functional phosphatase catalytic domain. *Proc. Natl. Acad. Sci. USA* 94: 12479-12484.

CHROMOSOMAL LOCATION

Genetic locus: PTEN (human) mapping to 10q23.31.

PRODUCT

PTEN (h): 293T Lysate represents a lysate of human PTEN transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

PTEN (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive PTEN antibodies. Recommended use: 10-20 µl per lane.

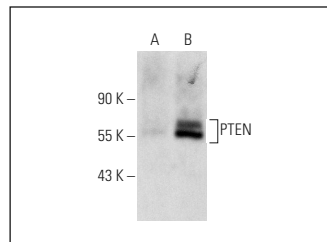
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PTEN (B-1): sc-133197 is recommended as a positive control antibody for Western Blot analysis of enhanced human PTEN expression in PTEN transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



PTEN (B-1): sc-133197. Western blot analysis of PTEN expression in non-transfected: sc-117752 (A) and human PTEN transfected: sc-159790 (B) 293T whole cell lysates.

RESEARCH USE

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