

# PTEN (G-6): sc-133242

## 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 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

PTEN (G-6) is a mouse monoclonal antibody raised against amino acids 1-403 representing full length PTEN of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PTEN (G-6) is available conjugated to agarose (sc-133242 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133242 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133242 PE), fluorescein (sc-133242 FITC), Alexa Fluor® 488 (sc-133242 AF488), Alexa Fluor® 546 (sc-133242 AF546), Alexa Fluor® 594 (sc-133242 AF594) or Alexa Fluor® 647 (sc-133242 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133242 AF680) or Alexa Fluor® 790 (sc-133242 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

PTEN (G-6) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

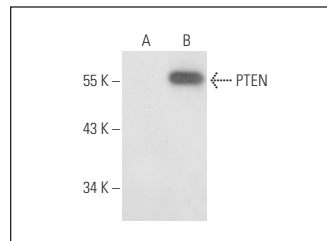
PTEN (G-6) is also recommended for detection of PTEN in additional species, including canine.

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.

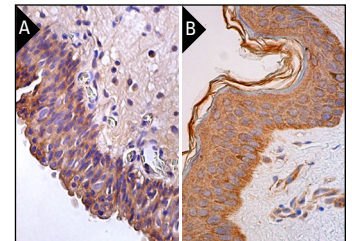
Molecular Weight of PTEN: 55 kDa.

Positive Controls: PTEN (m): 293T Lysate: sc-122834, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

## DATA



PTEN (G-6): sc-133242. Western blot analysis of PTEN expression in non-transfected: sc-117752 (A) and mouse PTEN transfected: sc-122834 (B) 293T whole cell lysates.



PTEN (G-6): sc-133242. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes (B).

## SELECT PRODUCT CITATIONS

1. Gravina, G.L., et al. 2009. Epigenetic modulation of PTEN expression during antiandrogenic therapies in human prostate cancer. *Int. J. Oncol.* 35: 1133-1139.
2. Wei, D., et al. 2018. Downregulation of microRNA-198 suppresses cell proliferation and invasion in retinoblastoma by directly targeting PTEN. *Mol. Med. Rep.* 18: 595-602.
3. Zeng, S., et al. 2019. Upregulation of lncRNA AB073614 functions as a predictor of epithelial ovarian cancer prognosis and promotes tumor growth *in vitro* and *in vivo*. *Cancer Biomark.* 24: 421-428.

## RESEARCH USE

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