

# TPTE (N-14): sc-67879

## BACKGROUND

TPTE (transmembrane phosphatase with tensin homology), also known as PTEN2 (phosphatase and tensin homolog 2) in mice or CT44 (cancer/testis antigen 44), is a 551 amino acid multi-pass membrane protein belonging to the PTEN-related family that is exclusively expressed in the testis and localizes to the plasma membrane in humans. The gene encoding TPTE is present in multiple copies in the human genome, some of which may be pseudogenes. TPTE contains one C2 tensin-type domain and one phosphatase tensin-type domain but, in humans, it does not exhibit phosphatase activity. However, the mouse ortholog (PTEN2) is a functional 3-phosphoinositide phosphatase that localizes to the Golgi apparatus and plays a possible role in signal transduction. In humans, four isoforms, namely TPTE $\alpha$ , TPTE $\beta$ , TPTE $\gamma$  and TPTE $\delta$ , are produced by alternative splicing of this gene.

## REFERENCES

1. Forgacs, E., et al. 1998. Mutation analysis of the PTEN/MMAC1 gene in lung cancer. *Oncogene* 17: 1557-1565.
2. Walker, S.M., et al. 2001. TPIP: a novel phosphoinositide 3-phosphatase. *Biochem. J.* 360: 277-283.
3. Guipponi, M., et al. 2001. The murine orthologue of the Golgi-localized TPTE protein provides clues to the evolutionary history of the human TPTE gene family. *Hum. Genet.* 109: 569-575.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604336. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Tapparel, C., et al. 2003. The TPTE gene family: cellular expression, sub-cellular localization and alternative splicing. *Gene* 323: 189-199.
6. Valiente, M., et al. 2005. Binding of PTEN to specific PDZ domains contributes to PTEN protein stability and phosphorylation by microtubule-associated serine/threonine kinases. *J. Biol. Chem.* 280: 28936-28943.
7. Mahadevan, D., et al. 2005. Transcript profiling in peripheral T-cell lymphoma, not otherwise specified, and diffuse large B-cell lymphoma identifies distinct tumor profile signatures. *Mol. Cancer Ther.* 4: 1867-1879.
8. Kawaguchi, K., et al. 2005. Genetic and epigenetic alterations of the PTEN gene in soft tissue sarcomas. *Hum. Pathol.* 36: 357-363.

## CHROMOSOMAL LOCATION

Genetic locus: TPTE (human) mapping to 21p11.1.

## SOURCE

TPTE (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of TPTE of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-67879 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TPTE (N-14) is recommended for detection of TPTE of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 TPTE siRNA (h): sc-63143, TPTE shRNA Plasmid (h): sc-63143-SH and TPTE shRNA (h) Lentiviral Particles: sc-63143-V.

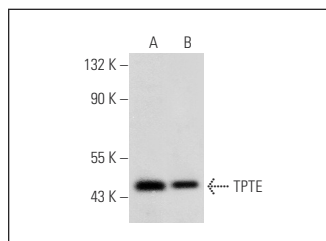
Molecular Weight of TPTE isoforms: 64/62/60/50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HL-60 whole cell lysate: sc-2209 or TPTE (h): 293T Lysate: sc-170002.

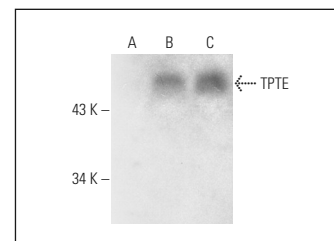
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



TPTE (N-14): sc-67879. Western blot analysis of TPTE expression in HL-60 (A) and MIA PaCa-2 (B) whole cell lysates.



TPTE (N-14): sc-67879. Western blot analysis of TPTE expression in non-transfected 293T: sc-117752 (A), human TPTE transfected 293T: sc-170002 (B) and Hep G2 (C) whole cell lysates.

## RESEARCH USE

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