

TPTE (h): 293T Lysate: sc-170002

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 α , TPTE β , TPTE γ and TPTE δ , are produced by alternative splicing of this gene.

REFERENCES

1. Forgacs, E., Biesterveld, E.J., Sekido, Y., Fong, K., Muneer, S., Wistuba, I.I., Milchgrub, S., Brezinschek, R., Virmani, A., Gazdar, A.F. and Minna, J.D. 1998. Mutation analysis of the PTEN/MMAC1 gene in lung cancer. *Oncogene* 17: 1557-1565.
2. Walker, S.M., Downes, C.P. and Leslie, N.R. 2001. TPIP: a novel phosphoinositide 3-phosphatase. *Biochem. J.* 360: 277-283.
3. Guipponi, M., Tapparel, C., Jousson, O., Scamuffa, N., Mas, C., Rossier, C., Hutter, P., Meda, P., Lyle, R., Reymond, A. and Antonarakis, S.E. 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., Reymond, A., Girardet, C., Guillo, L., Lyle, R., Lamon, C., Hutter, P. and Antonarakis, S.E. 2003. The TPTE gene family: cellular expression, subcellular localization and alternative splicing. *Gene* 323: 189-199.
6. Valiente, M., Andrés-Pons, A., Gomar, B., Torres, J., Gil, A., Tapparel, C., Antonarakis, S.E. and Pulido, R. 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., Spier, C., Della Croce, K., Miller, S., George, B., Riley, C., Warner, S., Grogan, T.M. and Miller, T.P. 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., Oda, Y., Saito, T., Takahira, T., Yamamoto, H., Tamiya, S., Iwamoto, Y. and Tsuneyoshi, M. 2005. Genetic and epigenetic alterations of the PTEN gene in soft tissue sarcomas. *Hum. Pathol.* 36: 357-363.
9. Leslie, N.R., Yang, X., Downes, C.P. and Weijer, C.J. 2007. PtdIns(3,4,5)P₃-dependent and -independent roles for PTEN in the control of cell migration. *Curr. Biol.* 17: 115-125.

CHROMOSOMAL LOCATION

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

PRODUCT

TPTE (h): 293T Lysate represents a lysate of human TPTE transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

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

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

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.

RESEARCH USE

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

PROTOCOLS

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