SANTA CRUZ BIOTECHNOLOGY, INC.

TPIP siRNA (h): sc-76719

BACKGROUND

TPIP, also known as TPTE2 (transmembrane phosphoinositide 3-phosphatase and tensin homolog 2), phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase TPTE2, lipid phosphatase TPIP, or TPTE and PTEN homologous inositol lipid phosphatase, is a 522 amino acid multi-pass membrane protein containing a C2 tensin-type domain, and one phosphatase tensin-type domain. Localizing to the endoplasmic reticulum membrane, TPIP exists as four alternatively spliced isoforms, designated TPIP-γ, TPIP-2, TPIP-α, and TPIP-β. TPIP-β, which lacks a transmembrane domain and contains a truncated CS domain, localizes to cytoplasm and is testis specific. TPIP-α is expressed in testis, brain and stomach and shows a high degree of sequence conservation with PTEN as well as TPTE. The gene encoding TPIP maps to human chromosome 13q12.11.

REFERENCES

1. Walker, S.M., et al. 2001. TPIP: a novel phosphoinositide 3-phosphatase. Biochem. J. 360: 277-283.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606791. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Tapparel, C., et al. 2003. The TPTE gene family: cellular expression, subcellular localization and alternative splicing. Gene 323: 189-199.
4. Deocampo, N.D., et al. 2003. The role of PTEN in the progression and survival of prostate cancer. Minerva Endocrinol. 28: 145-153.
5. Dunham, A., et al. 2004. The DNA sequence and analysis of human chromosome 13. Nature 428: 522-528.
6. Clifford, R.J., et al. 2010. Genetic variations at loci involved in the immune response are risk factors for hepatocellular carcinoma. Hepatology 52: 2034-2043.
7. Rose, J.E., et al. 2010. Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Mol. Med. 16: 247-253.

CHROMOSOMAL LOCATION

Genetic locus: TPTE2 (human) mapping to 13q12.11.

PRODUCT

TPIP siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TPIP shRNA Plasmid (h): sc-76719-SH and TPIP shRNA (h) Lentiviral Particles: sc-76719-V as alternate gene silencing products.

For independent verification of TPIP (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-76719A, sc-76719B and sc-76719C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TPIP siRNA (h) is recommended for the inhibition of TPIP expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

TPIP (978CT6.1.4): sc-517368 is recommended as a control antibody for monitoring of TPIP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TPIP gene expression knockdown using RT-PCR Primer: TPIP (h)-PR: sc-76719-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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