SANTA CRUZ BIOTECHNOLOGY, INC.

HTPAP siRNA (h): sc-77623

BACKGROUND

PAP (phosphatidate phosphatase) enzymes are involved in lipid synthesis and in the degradation or generation of molecules that are involved in lipid signaling. HTPAP is also known as PPAPDC1B (phosphatidic acid phosphatase type 2 domain containing 1B) or DPPL1 and is a 223 amino acid protein that is localized to the cellular membrane. HTPAP is a multi-pass membrane protein which is thought to possess six transmembrane spanning domains and is expressed as two isoforms. HTPAP is a member of the PAP related phosphoesterase family and the gene encoding HTPAP is highly conserved among many species. HTPAP functions as a PAP for lipid phosphate substrates, including PA (phosphatidate), LPA (lysophatidate) and DGPP (diacylglycerol pyrophosphate), but preferentially targets DGPP. Breast cancer tumors, specifically those in which ER (estrogen receptor) is present in high amounts, exhibit upregulation of the gene which encodes HTPAP and HTPAP is thought to increase ER activity. Due to the overexpression of HTPAP in ductal breast carcinomas and the observation that, in cases of lower HTPAP expression, tumors grew slower, HTPAP is thought to be an oncogene. In contrast, the gene encoding HTPAP is downregulated in HCC (hepatocellular carcinoma) and is thought to inhibit lung metastasis.

REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610626. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Takeuchi, M., Harigai, M., Momohara, S., Ball, E., Abe, J., Furuichi, K. and Kamatani, N. 2007. Cloning and characterization of DPPL1 and DPPL2, representatives of a novel type of mammalian phosphatidate phosphatase. Gene 399: 174-180.
5. Bernard-Pierrot, I., Gruel, N., Stransky, N., Vincent-Salomon, A., Reyal, F., Raynal, V., Vallot, C., Pierron, G., Radvanyi, F. and Delattre, O. 2008. Characterization of the recurrent 8p11-12 amplicon identifies PPAPDC1B, a phosphatase protein, as a new therapeutic target in breast cancer. Cancer Res. 68: 7165-7175.

CHROMOSOMAL LOCATION

Genetic locus: PPAPDC1B (human) mapping to 8p11.23.

PRODUCT

HTPAP siRNA (h) is a target-specific 19-25 nt siRNA 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 HTPAP shRNA Plasmid (h): sc-77623-SH and HTPAP shRNA (h) Lentiviral Particles: sc-77623-V as alternate gene silencing 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

HTPAP siRNA (h) is recommended for the inhibition of HTPAP 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HTPAP gene expression knockdown using RT-PCR Primer: HTPAP (h)-PR: sc-77623-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.

PROTOCOLS

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