SANTA CRUZ BIOTECHNOLOGY, INC.

G3PP siRNA (h): sc-91457

BACKGROUND

G3PP (glycerol-3-phosphate permease), also known as G-3-P transporter or solute carrier family 37 member 1, is a 533 amino acid protein belonging to the major facilitator superfamily. G3PP is a multi-pass membrane protein that acts as a transporter of or glycerol-3-phoshphate between cellular compartments. Glycerol-3-phosphate is produced from glycerol and is an important factor in many biochemical pathways, including glycolysis. G3PP contains 12 putative transmembrane domains and N- and C-terminal Endoplasmic Reticulum (ER) retention signals. G3PP is expressed at highest levels in liver, kidney, small intestine, bone marrow and fetal tissues.

REFERENCES

1. Bartoloni, L., Wattenhofer, M., Kudoh, J., Berry, A., Shibuya, K., Kawasaki, K., Wang, J., Asakawa, S., Talior, I., Bonne-Tamir, B., Rossier, C., Michaud, J., McCabe, E.R., Minoshima, S., Shimizu, N., et al. 2000. Cloning and characterization of a putative human glycerol 3-phosphate permease gene (SLC37A1 or G3PP) on 21q22.3: mutation analysis in two candidate phenotypes, DFNB10 and a glycerol kinase deficiency. Genomics 70: 190-200.
2. Hattori, M., Fujiyama, A., Taylor, T.D., Watanabe, H., Yada, T., Park, H.S., Toyoda, A., Ishii, K., Totoki, Y., Choi, D.K., Groner, Y., Soeda, E., Ohki, M., Takagi, T., Sakaki, Y., Taudien, S., Blechschmidt, K., Polley, A., et al. 2000. The DNA sequence of human chromosome 21. Nature 405: 311-319.
3. Carroll, J.S., Liu, X.S., Brodsky, A.S., Li, W., Meyer, C.A., Szary, A.J., Eeckhoute, J., Shao, W., Hestermann, E.V., Geistlinger, T.R., Fox, E.A., Silver, P.A. and Brown, M. 2005. Chromosome-wide mapping of estrogen receptor binding reveals long-range regulation requiring the forkhead protein FoxA1. Cell 122: 33-43.
4. Pope, S.N. and Lee, I.R. 2005. Yeast two-hybrid identification of prostatic proteins interacting with human sex hormone-binding globulin. J. Steroid Biochem. Mol. Biol. 94: 203-208.
5. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 608094. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: SLC37A1 (human) mapping to 21q22.3.

PRODUCT

G3PP 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 G3PP shRNA Plasmid (h): sc-91457-SH and G3PP shRNA (h) Lentiviral Particles: sc-91457-V as alternate gene silencing products.

For independent verification of G3PP (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-91457A, sc-91457B and sc-91457C.

RESEARCH USE

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

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

G3PP siRNA (h) is recommended for the inhibition of G3PP 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 G3PP gene expression knockdown using RT-PCR Primer: G3PP (h)-PR: sc-91457-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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