SANTA CRUZ BIOTECHNOLOGY, INC.

SLC17A3 siRNA (m): sc-63041

BACKGROUND

SLC17A3 (solute carrier family 17 member 3), also known as NPT4 (Na^+/PI cotransporter 4), is a 401 amino acid multi-pass membrane protein that belongs to the sodium/anion cotransporter family. Expressed in the liver and kidney, SLC17A3 is involved in active transport of phosphate into cells through a sodium/phosphate co-transport system. SLC17A3 contains four transmembrane domains and is localized to the membrane of the endoplasmic reticulum (ER). Defects in the gene encoding SLC17A3 are thought to decrease phosphate transport efficiency and contribute to the development of glycogen storage disease type Ic (GSD Ic). GSD Ic is an autosomal recessive disorder caused by a deficiency in the phosphate transport system. It is characterized by pyogenic infections, neutrophil dysfunction and neutropenia.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611034. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Ishibashi, K., Matsuzaki, T., Takata, K. and Imai, M. 2003. Identification of a new member of type I Na/phosphate co-transporter in the rat kidney. Nephron Physiol. 94: p10-p18.
4. Melis, D., Havelaar, A.C., Verbeek, E., Smit, G.P., Benedetti, A., Mancini, G.M. and Verheijen, F. 2004. NPT4, a new microsomal phosphate transporter: mutation analysis in glycogen storage disease type Ic. J. Inherit. Metab. Dis. 27: 725-733.
5. Reimer, R.J. and Edwards, R.H. 2004. Organic anion transport is the primary function of the SLC17/type I phosphate transporter family. Pflugers Arch. 447: 629-635.

CHROMOSOMAL LOCATION

Genetic locus: Slc17a3 (mouse) mapping to 13 A3.1.

PRODUCT

SLC17A3 siRNA (m) 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 SLC17A3 shRNA Plasmid (m): sc-63041-SH and SLC17A3 shRNA (m) Lentiviral Particles: sc-63041-V as alternate gene silencing products.

For independent verification of SLC17A3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-63041A, sc-63041B and sc-63041C.

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

SLC17A3 siRNA (m) is recommended for the inhibition of SLC17A3 expression in mouse 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 SLC17A3 gene expression knockdown using RT-PCR Primer: SLC17A3 (m)-PR: sc-63041-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.