SANTA CRUZ BIOTECHNOLOGY, INC.

ATP8A2 siRNA (h): sc-105108

BACKGROUND

The family of P-type adenosine triphosphates (ATPases), which are phosphorylated in their intermediate state, are involved in the active transport of charged substrates across biological membranes. Members of this family are ubiquitous integral membrane proteins and can be divided into five major groups consisting of several subfamilies each. The P-type ATPase Type IV family members are characterized as phospholipid pumps and are then divided into six classes determined by sequence similarity. ATP8A2 (ATPase class I type 8A member) is a 1,148 amino acid protein that is strongly expressed in brain, testis and heart. ATP8A2 is a multi-pass transmembrane protein that uses ATP to maintain ion gradients across the cell membrane and may possess some aminophospholipid translocase activity. There are two named isoforms of ATP8A2 which are a result of alternative splicing events.

REFERENCES

1. Sun, X.L., et al. 1999. Changes in levels of normal ML-1 gene transcripts associated with the conversion of human nontumorigenic to tumorigenic phenotypes. Gene Expr. 8: 129-139.
2. Halleck, M.S., et al. 1999. Differential expression of putative transbilayer amphipath transporters. Physiol. Genomics 1: 139-150.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605870. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Flamant, S., et al. 2003. Characterization of a putative type IV aminophospholipid transporter P-type ATPase. Mamm. Genome 14: 21-30.
5. Dhar, M.S., et al. 2006. A type IV P-type ATPase affects Insulin-mediated glucose uptake in adipose tissue and skeletal muscle in mice. J. Nutr. Biochem. 17: 811-820.
6. Kubala, M. 2006. ATP-binding to P-type ATPases as revealed by biochemical, spectroscopic, and crystallographic experiments. Proteins 64: 1-12.

CHROMOSOMAL LOCATION

Genetic locus: ATP8A2 (human) mapping to 13q12.13.

PRODUCT

ATP8A2 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 ATP8A2 shRNA Plasmid (h): sc-105108-SH and ATP8A2 shRNA (h) Lentiviral Particles: sc-105108-V as alternate gene silencing products.

For independent verification of ATP8A2 (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-105108A, sc-105108B and sc-105108C.

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

ATP8A2 siRNA (h) is recommended for the inhibition of ATP8A2 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 ATP8A2 gene expression knockdown using RT-PCR Primer: ATP8A2 (h)-PR: sc-105108-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.