SANTA CRUZ BIOTECHNOLOGY, INC.

ATP8A1 siRNA (m): sc-141363

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. ATP8A1 (ATPase, aminophospholipid transporter (APLT), class I, type 8A, member 1), also known as ATPIA, ATPP2 or ATPASEII, is a 1,164 amino acid protein that localizes to cytoplasmic and secretory vesicles and belongs to the P-type ATPase type IV family. Expressed in a variety of adult tissues, including brain, heart and skeletal muscle, ATP8A1 plays a role in the transport of aminophospholipids from the outer membrane to the inner vesicle compartment. Two isoforms of ATP8A1, designated short and long, exist due to alternative splicing events.

REFERENCES

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3. Halleck, M.S., et al. 1999. Differential expression of putative transbilayer amphipath transporters. Physiol. Genomics 1: 139-150.
4. Sobocki, T., et al. 2005. Isolation, sequencing, and functional analysis of the TATA-less human ATPase II promoter. Biochim. Biophys. Acta 1728: 186-198.
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7. Soupene, E. and Kuypers, F.A. 2006. Identification of an erythroid ATP-dependent aminophospholipid transporter. Br. J. Haematol. 133: 436-438.

CHROMOSOMAL LOCATION

Genetic locus: Atp8a1 (mouse) mapping to 5 C3.1.

PRODUCT

ATP8A1 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 ATP8A1 shRNA Plasmid (m): sc-141363-SH and ATP8A1 shRNA (m) Lentiviral Particles: sc-141363-V as alternate gene silencing products.

For independent verification of ATP8A1 (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-141363A, sc-141363B and sc-141363C.

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

ATP8A1 siRNA (m) is recommended for the inhibition of ATP8A1 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 ATP8A1 gene expression knockdown using RT-PCR Primer: ATP8A1 (m)-PR: sc-141363-PR (20 µl, 599 bp). 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.