SANTA CRUZ BIOTECHNOLOGY, INC.

ATP11A siRNA (h): sc-105104

BACKGROUND

ATP11A (ATPase, class VI, type 11A), also known as ATPIS or ATPIH, is a 1,134 amino acid multi-pass membrane protein that belongs to the cation transport ATPase family and is expressed in a variety of tissues, including testis, brain, spleen and pancreas. Existing as two alternatively spliced isoforms, ATP11A uses ATP to drive the transport of ions, such as calcium, across cellular membranes. Human ATP11A shares 91% sequence identity with its mouse counterpart, suggesting a conserved role between species. The gene encoding ATP11A maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome.

REFERENCES

1. Kikuno, R., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 197-205.
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: 605868. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Andrew Nesbit, M., et al. 2004. X-linked hypoparathyroidism region on Xq27 is evolutionarily conserved with regions on 3q26 and 13q34 and contains a novel P-type ATPase. Genomics 84: 1060-1070.
5. Zhang, B., et al. 2005. Resistance to farnesyltransferase inhibitors in Bcr/Abl-positive lymphoblastic leukemia by increased expression of a novel ABC transporter homolog ATP11A. Blood 106: 1355-1361.

CHROMOSOMAL LOCATION

Genetic locus: ATP11A (human) mapping to 13q34.

PRODUCT

ATP11A siRNA (h) is a pool of 2 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 ATP11A shRNA Plasmid (h): sc-105104-SH and ATP11A shRNA (h) Lentiviral Particles: sc-105104-V as alternate gene silencing products.

For independent verification of ATP11A (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-105104A and sc-105104B.

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.

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

ATP11A siRNA (h) is recommended for the inhibition of ATP11A 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 ATP11A gene expression knockdown using RT-PCR Primer: ATP11A (h)-PR: sc-105104-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.