SANTA CRUZ BIOTECHNOLOGY, INC.

ATP11B siRNA (h): sc-78522

BACKGROUND

ATP11B (ATPase, class VI, type 11B), also known as ATPIR or ATPIF, is a 1,177 amino acid multi-pass membrane protein that belongs to the cation transport family of P-type ATPases. Like most P-type ATPases, ATP11B is phosphorylated in its intermediate state and it uses ATP to drive the active transport of ions across cellular membranes. ATP11B, which contains ten transmembrane domains, is expressed at high levels in ovary, kidney, testis and corpus callosum and is encoded by a gene that maps to human chromosome 3q26.33. Chromosome 3 is made up of about 214 million bases encoding over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

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2. Halleck, M.S., et al. 1999. Differential expression of putative transbilayer amphipath transporters. Physiol. Genomics 1: 139-150.
3. Mansharamani, M., et al. 2001. Cloning and characterization of an atypical Type IV P-type ATPase that binds to the RING motif of RUSH transcription factors. J. Biol. Chem. 276: 3641-3649.
4. Halleck, M.S., et al. 2002. Reanalysis of ATP11B, a type IV P-type ATPase. J. Biol. Chem. 277: 9736-9740.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605869. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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CHROMOSOMAL LOCATION

Genetic locus: ATP11B (human) mapping to 3q26.33.

PRODUCT

ATP11B 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 ATP11B shRNA Plasmid (h): sc-78522-SH and ATP11B shRNA (h) Lentiviral Particles: sc-78522-V as alternate gene silencing products.

For independent verification of ATP11B (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-78522A, sc-78522B and sc-78522C.

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

ATP11B siRNA (h) is recommended for the inhibition of ATP11B 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 ATP11B gene expression knockdown using RT-PCR Primer: ATP11B (h)-PR: sc-78522-PR (20 µl, 278 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.