SANTA CRUZ BIOTECHNOLOGY, INC.

ATP11C siRNA (m): sc-141337

BACKGROUND

ATP11C (ATPase, class VI, type 11C), also known as ATPIG or ATPIQ, is a 1,132 amino acid multi-pass membrane protein that belongs to the cation transport ATPase (P-type) family and the type IV subfamily. Widely expressed, ATP11C exists as 4 alternatively spliced isoforms and contains 31 exons, including the alternate first exons 1a and 1b. ATP11C is conserved in canine, mouse, chicken and zebrafish, with human and mouse ATP11C sharing 94.8% amino acid identity. ATP11C participates in both ATP and magnesium ion binding, as well as phospholipid-translocating ATPase activity. ATP11C is phosphorylated upon DNA damage, likely by Atm or ATR. The gene that encodes ATP11C maps to human chromosome Xq27.1.

REFERENCES

1. Halleck, M.S., et al. 2002. Reanalysis of ATP11B, a type IV P-type ATPase. J. Biol. Chem. 277: 9736-9740.
2. 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.
3. Bowl, M.R., et al. 2005. An interstitial deletion-insertion involving chromosomes 2p25.3 and Xq27.1, near SOX3, causes X-linked recessive hypoparathyroidism. J. Clin. Invest. 115: 2822-2831.
4. Huttner, I.G., et al. 2006. Proof of genetic heterogeneity in X-linked Charcot-Marie-Tooth disease. Neurology 67: 2016-2021.
5. Solomon, N.M., et al. 2007. Array comparative genomic hybridisation analysis of boys with X-linked hypopituitarism identifies a 3.9 Mb duplicated critical region at Xq27 containing SOX3. J. Med. Genet. 44: e75.
6. Ahituv, N., et al. 2007. Deletion of ultraconserved elements yields viable mice. PLoS Biol. 5: e234.
7. Yamamoto, M.L., et al. 2009. Alternative pre-mRNA splicing switches modulate gene expression in late erythropoiesis. Blood 113: 3363-3370.
8. Navratilova, P., et al. 2009. Systematic human/zebrafish comparative identification of *cis*-regulatory activity around vertebrate developmental transcription factor genes. Dev. Biol. 327: 526-540.

CHROMOSOMAL LOCATION

Genetic locus: Atp11c (mouse) mapping to X A6.

PRODUCT

ATP11C 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 ATP11C shRNA Plasmid (m): sc-141337-SH and ATP11C shRNA (m) Lentiviral Particles: sc-141337-V as alternate gene silencing products.

For independent verification of ATP11C (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-141337A, sc-141337B and sc-141337C.

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

ATP11C siRNA (m) is recommended for the inhibition of ATP11C 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 ATP11C gene expression knockdown using RT-PCR Primer: ATP11C (m)-PR: sc-141337-PR (20 µl, 593 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.