SANTA CRUZ BIOTECHNOLOGY, INC.

ATP10B siRNA (h): sc-91676

BACKGROUND

ATP10B (ATPase, class V, type 10B), also known as ATPVB or probable phospholipid-transporting ATPase VB, is a 1,461 amino acid multi-pass membrane protein that belongs to the cation transport ATPase (P-type) family and the type IV subfamily. Encoded by a gene that maps to human chromosome 5q34, ATP10B functions as a transport protein that is conserved in canine, mouse, rat, chicken, zebrafish, *Schizosaccharomyces pombe, Arabidopsis thaliana* and rice. ATP10B exists as three alternatively spliced isoforms and is expressed in brain and testis. Functioning as a tumor marker, ATP10B is highly expressed in lung adenocarcinoma and peripheral blood cells. Increased expression of maternally expressed ATP10B may be linked to Prader-Willi-Angelman syndrome and allelic loss on chromosome 5q34 may be involved in the development of hepatocellular carcinoma.

REFERENCES

1. Tian, E., et al. 2003. The role of the Wnt-signaling antagonist DKK1 in the development of osteolytic lesions in multiple myeloma. N. Engl. J. Med. 349: 2483-2494.
2. Tatenhorst, L., et al. 2004. Regulators of G protein signaling 3 and 4 (RGS3, RGS4) are associated with glioma cell motility. J. Neuropathol. Exp. Neurol. 63: 210-222.
3. Paulusma, C.C. and Oude Elferink, R.P. 2005. The type 4 subfamily of P-type ATPases, putative aminophospholipid translocases with a role in human disease. Biochim. Biophys. Acta 1741: 11-24.
4. Wolfe, D.M. and Pearce, D.A. 2006. Channeling studies in yeast: yeast as a model for channelopathies? Neuromolecular Med. 8: 279-306.
5. Nakamura, N., et al. 2006. Identification of tumor markers and differentiation markers for molecular diagnosis of lung adenocarcinoma. Oncogene 25: 4245-4255.
6. Saelee, P., et al. 2008. Allelic loss on chromosome 5q34 is associated with poor prognosis in hepatocellular carcinoma. J. Cancer Res. Clin. Oncol. 134: 1135-1141.
7. Gaglani, S.M., et al. 2009. The genetic control of neocortex volume and covariation with neocortical gene expression in mice. BMC Neurosci. 10: 44.

CHROMOSOMAL LOCATION

Genetic locus: ATP10B (human) mapping to 5q34.

PRODUCT

ATP10B 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 ATP10B shRNA Plasmid (h): sc-91676-SH and ATP10B shRNA (h) Lentiviral Particles: sc-91676-V as alternate gene silencing products.

For independent verification of ATP10B (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-91676A, sc-91676B and sc-91676C.

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

ATP10B siRNA (h) is recommended for the inhibition of ATP10B 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 ATP10B gene expression knockdown using RT-PCR Primer: ATP10B (h)-PR: sc-91676-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.