SANTA CRUZ BIOTECHNOLOGY, INC.

ABCB8 siRNA (m): sc-72415

BACKGROUND

ATP-binding cassette (ABC) transporters are an evolutionarily conserved family of proteins that catalyze the transport of molecules across extracellular and intracellular membranes by harnessing the energy of ATP hydrolysis. ABCB8 (ATP-binding cassette, subfamily B (MDR/TAP), member 8), also known as MABC1, is a 735 amino acid multi-pass membrane protein that localizes to mitochondria and belongs to the superfamily of ABC transporters. Expressed ubiquitously, ABCB8 contains one ABC transporter domain and one ABC transmembrane type-1 domain through which it plays a role in protein transport and, existing as a monomer, may also be involved in drug resistance and antigen presentation. Specifically, ABCB8 is thought to facilitate the compartmentalization and transport of peptides, as well as heme, from mitochondria to the cytosol. Two isoforms of ABCB8, designated short and long, exist due to alternative splicing events.

REFERENCES

1. Allikmets, R., et al. 1996. Characterization of the human ABC superfamily: isolation and mapping of 21 new genes using the expressed sequence tags database. Hum. Mol. Genet. 5: 1649-1655.
2. Hogue, D.L., et al. 1999. Identification and characterization of a mammalian mitochondrial ATP-binding cassette membrane protein. J. Mol. Biol. 285: 379-389.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605464. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Saito, S., et al. 2002. Three hundred twenty-six genetic variations in genes encoding nine members of ATP-binding cassette, subfamily B (ABCB/MDR/TAP), in the Japanese population. J. Hum. Genet. 47: 38-50.
5. Yasui, K., et al. 2004. Alteration in copy numbers of genes as a mechanism for acquired drug resistance. Cancer Res. 64: 1403-1410.

CHROMOSOMAL LOCATION

Genetic locus: Abcb8 (mouse) mapping to 5 A3.

PRODUCT

ABCB8 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 ABCB8 shRNA Plasmid (m): sc-72415-SH and ABCB8 shRNA (m) Lentiviral Particles: sc-72415-V as alternate gene silencing products.

For independent verification of ABCB8 (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-72415A, sc-72415B and sc-72415C.

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

ABCB8 siRNA (m) is recommended for the inhibition of ABCB8 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 ABCB8 gene expression knockdown using RT-PCR Primer: ABCB8 (m)-PR: sc-72415-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.