SANTA CRUZ BIOTECHNOLOGY, INC.

ABCA10 siRNA (h): sc-94133

BACKGROUND

ABCA10 (ATP-binding cassette, sub-family A (ABC1), member 10), also known as EST698739, is a 1,543 amino acid protein belonging to the ABC transporter superfamily and the ABCA family. The ABC1 subfamily is the only major ABC subfamily exclusive to multicellular eukaryotes. Ubiquitously expressed, with high expression in skeletal muscle, heart, brain and gastrointestinal tract, ABCA10 is a multi-pass membrane protein that contains two ABC transporter domains and exists as four alternatively spliced isoforms. ABCA10 is clustered among five other ABC1 family members on human chromosome 17q24.3. ABCA10 exhibits membrane subcellular localization and likely acts as a transporter involved in macrophage lipid homeostasis. ABCA10 is down-regulated by cholesterol loading of macrophages and may play a role in tumor development.

REFERENCES

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2. Wenzel, J.J., et al. 2003. ABCA10, a novel cholesterol-regulated ABCA6-like ABC transporter. Biochem. Biophys. Res. Commun. 306: 1089-1098.
3. Annilo, T., et al. 2003. Evolutionary analysis of a cluster of ATP-binding cassette (ABC) genes. Mamm. Genome 14: 7-20.
4. Dean, M., et al. 2005. Evolution of the ATP-binding cassette (ABC) transporter superfamily in vertebrates. Annu. Rev. Genomics Hum. Genet. 6: 123-142.
5. Annilo, T., et al. 2006. Evolution of the vertebrate ABC gene family: analysis of gene birth and death. Genomics 88: 1-11.
6. de Grouw, E.P., et al. 2006. Preferential expression of a high number of ATP binding cassette transporters in both normal and leukemic $CD34^{+}CD38^{-}$ cells. Leukemia 20: 750-754.
7. Ohtsuki, S., et al. 2007. Correlation of induction of ATP binding cassette transporter A5 (ABCA5) and ABCB1 mRNAs with differentiation state of human colon tumor. Biol. Pharm. Bull. 30: 1144-1146.

CHROMOSOMAL LOCATION

Genetic locus: ABCA10 (human) mapping to 17q24.3.

PRODUCT

ABCA10 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 ABCA10 shRNA Plasmid (h): sc-94133-SH and ABCA10 shRNA (h) Lentiviral Particles: sc-94133-V as alternate gene silencing products.

For independent verification of ABCA10 (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-94133A, sc-94133B and sc-94133C.

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

ABCA10 siRNA (h) is recommended for the inhibition of ABCA10 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 ABCA10 gene expression knockdown using RT-PCR Primer: ABCA10 (h)-PR: sc-94133-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.