SANTA CRUZ BIOTECHNOLOGY, INC.

ABCA9 siRNA (m): sc-140755

BACKGROUND

ABCA9 (ATP-binding cassette, sub-family A (ABC1), member 9) is a 1,624 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 heart, brain and fetal tissues, ABCA9 is a multi-pass membrane protein that contains two ABC transporter domains and exists as five alternatively spliced isoforms. ABCA9 exhibits membrane subcellular localization and may play a role in monocyte differentiation and lipid homeostasis. ABCA9 is up-regulated during monocyte differentiation into macrophages and down-regulated by cholesterol loading of macrophages. Spanning 85 kb, ABCA9 contains 39 exons, with a non-coding first exon. ABCA9 is one of five ABC1 family members that maps to human chromosome 17q24.

REFERENCES

1. Piehler, A., et al. 2002. Molecular structure of a novel cholesterol-responsive A subclass ABC transporter, ABCA9. Biochem. Biophys. Res. Commun. 295: 408-416.
2. Petry, F., et al. 2003. Cloning of human and rat ABCA5/Abca5 and detection of a human splice variant. Biochem. Biophys. Res. Commun. 300: 343-350.
3. Annilo, T., et al. 2003. Evolutionary analysis of a cluster of ATP-binding cassette (ABC) genes. Mamm. Genome 14: 7-20.
4. Wakaumi, M., et al. 2005. Acute digoxin loading reduces ABCA8A mRNA expression in the mouse liver. Clin. Exp. Pharmacol. Physiol. 32: 1034-1041.
5. 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.
6. 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.
7. Li, G., et al. 2007. Evolutionary dynamics of the ABCA chromosome 17q24 cluster genes in vertebrates. Genomics 89: 385-391.

CHROMOSOMAL LOCATION

Genetic locus: Abca9 (mouse) mapping to 11 E1.

PRODUCT

ABCA9 siRNA (m) is a target-specific 19-25 nt siRNA 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 ABCA9 shRNA Plasmid (m): sc-140755-SH and ABCA9 shRNA (m) Lentiviral Particles: sc-140755-V as alternate gene silencing products.

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

ABCA9 siRNA (m) is recommended for the inhibition of ABCA9 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 ABCA9 gene expression knockdown using RT-PCR Primer: ABCA9 (m)-PR: sc-140755-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.