SANTA CRUZ BIOTECHNOLOGY, INC.

MBOAT1 siRNA (m): sc-75758

BACKGROUND

MBOAT1 (membrane bound O-acyltransferase domain containing 1), also known as lysophospholipid acyltransferase 1, lysophosphatidylserine acyltransferase, LPSAT, OACT1 or LPEAT1, is a 495 amino acid multi-pass membrane protein belonging to the membrane-bound acyltransferase family. MBOAT1 functions as a lysophosphatidylserine acyltransferase, which mediates the conversion of lysophosphatidylserine into phosphatidylserine and participates in the Lands cycle by catalyzing reacylation of phospholipid remodeling. As a membrane-bound acyltransferase, MBOAT1 transfers organic compounds onto hydroxyl groups of membrane-embedded targets. MBOAT1 is expressed in neutrophils and is known to be partially inhibited by thimerosal. Encoded by a gene that maps to human chromosome 6p22.3, three MBOAT1 isoforms exist as a result of alternative splicing events.

REFERENCES

1. Dauwerse, J.G., et al. 2007. A t(4;6)(q12;p23) translocation disrupts a membrane-associated O-acetyl transferase gene (MBOAT1) in a patient with a novel brachydactyly-syndactyly syndrome. Eur. J. Hum. Genet. 15: 743-751.
2. Tamaki, H., et al. 2007. LPT1 encodes a membrane-bound O-acyltransferase involved in the acylation of lysophospholipids in the yeast *Saccharomyces cerevisiae*. J. Biol. Chem. 282: 34288-34298.
3. Matsuda, S., et al. 2008. Member of the membrane-bound O-acyltransferase (MBOAT) family encodes a lysophospholipid acyltransferase with broad substrate specificity. Genes Cells 13: 879-888.
4. Gijón, M.A., et al. 2008. Lysophospholipid acyltransferases and arachidonate recycling in human neutrophils. J. Biol. Chem. 283: 30235-30245.
5. Hishikawa, D., et al. 2008. Discovery of a lysophospholipid acyltransferase family essential for membrane asymmetry and diversity. Proc. Natl. Acad. Sci. USA 105: 2830-2835.
6. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611732. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Mboat1 (mouse) mapping to 13 A3.2.

PRODUCT

MBOAT1 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 MBOAT1 shRNA Plasmid (m): sc-75758-SH and MBOAT1 shRNA (m) Lentiviral Particles: sc-75758-V as alternate gene silencing products.

For independent verification of MBOAT1 (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-75758A, sc-75758B and sc-75758C.

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

MBOAT1 siRNA (m) is recommended for the inhibition of MBOAT1 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 MBOAT1 gene expression knockdown using RT-PCR Primer: MBOAT1 (m)-PR: sc-75758-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.