LCLAT1 siRNA – Lysocardiolipin Acyltransferase 1 (Mouse)

PRODUCT OVERVIEW

Product Name	LCLAT1, siRNA
Full Product Name	LCLAT1 siRNA (Mouse)
Product Gene Name	LCLAT1 sirna
Product Synonym Names	ALCAT1; GM91; LYCAT; Lysocardiolipin acyltransferase 1; Acyl-CoA:lysocardiolipin acyltransferase 1
Host	Synthetic
Species Reactivity	Mouse
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	LCLAT1 siRNA (Mouse) is a target-specific 19-23 nt siRNA oligo duplexes designed to knock down gene expression.
Preparation and Storage	Shipped at 4 degree C. Store at -20 degree C for one year.
Molecular Weight	44,400 Da
3D Structure	ModBase 3D Structure for Q3UN02
Negative Control	siRNA Negative Control (Catalog# MBS8241404) is a non-targeting 21 nt siRNA recommended as a negative control for experiments using targeted siRNA transfection.
Quality Control	Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.
Directions for Use	We recommends transfection with 100 nM siRNA 48 to 72 hours prior to cell lysis. Before resuspending, briefly centrifuge the tube to ensure the lyophilized siRNA is at the bottom of the tube. Resuspend the siRNA oligos to an appropriate concentration with DEPC water. For each vial, suitable for 250 transfections in 24 well plate (20 pmol for each well).
Components	We offer pre-designed sets of 3 different target-specific siRNA oligo duplexes of mouse LCLAT1 gene. Each vial contains 5 nmol of lyophilized siRNA. The duplexes can be transfected individually or pooled together to achieve knockdown of the target gene, which is most commonly assessed by qPCR or western blot. Our siRNA oligos are also chemically modified (2'-OMe) at no extra charge for increased stability and enhanced knockdown in vitro and in vivo.
Applications Tested/Suitable for LCLAT1 sirna	RNA Interference (RNAi)
Related Product Information for LCLAT1 sirna	MBS828418 is an siRNA targeting LCLAT1. Also known as LCLAT1 siRNA (Mouse). Reactive in Mouse. Host: Synthetic. siRNA to inhibit LCLAT1 expression using RNA interference
Other Notes	Small volumes of LCLAT1 sirna vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for LCLAT1. It may not necessarily be applicable to this product.

NCBI GI #	124486722

NCBI GeneID	225010
NCBI Accession #	NP_001074540.1
UniProt Primary Accession #	Q3UN02
UniProt Related Accession #	Q3UN02
GenBank Nucleotide #	NM_001081071.2
NCBI Official Full Name	lysocardiolipin acyltransferase 1
NCBI Official Synonym Full Names	lysocardiolipin acyltransferase 1
NCBI Official Symbol	Lclat1
NCBI Official Synonym Symbols	Gm91; Lycat; Agpat8; Alcat1; AI181996
UniProt Protein Name	Lysocardiolipin acyltransferase 1
UniProt Synonym Protein Names	Acyl-CoA:lysocardiolipin acyltransferase 1
Protein Family	Lysocardiolipin acyltransferase
UniProt Gene Name	Lclat1
UniProt Synonym Gene Names	Alcat1; Gm91; Lycat
UniProt Entry Name	LCLT1_MOUSE
NCBI Protein Information	lysocardiolipin acyltransferase 1
UniProt Comments for LCLAT1	AGPAT8: Acyl-CoA:lysocardiolipin acyltransferase. Possesses both lysophosphatidylinositol acyltransferase (LPIAT) and lysophosphatidylglycerol acyltransferase (LPGAT) activities. Recognizes both monolysocardiolipin and dilysocardiolipin as substrates with a preference for linoleoyl-CoA and oleoyl-CoA as acyl donors. Acts as a remodeling enzyme for cardiolipin, a major membrane polyglycerophospholipid. Converts lysophosphatidic acid (LPA) into phosphatidic acid (PA) with a relatively low activity. Required for establishment of the hematopoietic and endothelial lineages. Belongs to the 1-acyl-sn-glycerol-3-phosphate acyltransferase family. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Lipid Metabolism - ether lipid; Amino Acid Metabolism - tyrosine; Membrane protein, integral; Membrane protein, multi-pass; Transferase; Endoplasmic reticulum; Secondary Metabolites Metabolism - limonene and pinene degradation; Lipid Metabolism - glycerophospholipid; Amino Acid Metabolism - phenylalanine; Lipid Metabolism - glycerolipid; EC 2.3.1.51 Cellular Component: membrane; endoplasmic reticulum; integral to membrane Molecular Function: keto acid formate lyase activity; glucosaminyl-phosphotidylinositol O-acyltransferase activity; S-malonyltransferase activity; 3-hydroxybutyryl-CoA thiolase activity; S-acetyltransferase activity; O-octanoyltransferase activity; O-sinapoyltransferase activity; acyl-CoA N-acyltransferase activity; peptidyl-lysine N6-myristoyltransferase activity; palmitoleoyl [acyl-carrier-protein]-dependent acyltransferase activity; peptidyl-lysine N6-palmitoyltransferase activity; azetidine-2-carboxylic acid acetyltransferase activity; succinyltransferase activity; dihydrolipoamide branched chain acyltransferase activity; Ras palmitoyltransferase activity; palmitoyltransferase activity; C-acyltransferase activity; C-palmitoyltransferase activity; dihydrolipoamide S-acyltransferase activity; N-acetyltransferase activity; protein-cysteine S-acyltransferase activity; serine O-acyltransferase activity; O-succinyltransferase activity; octanoyltransferase activity; O-palmitoyltransferase activity; malonyltransferase activity; carnitine O-acyltransferase activity; sterol O-acyltransferase activity; 3-ketopimelyl-CoA thiolase activity; S-succinyltransferase activity; N-acyltransferase activity; UDP-3-O-[3-hydroxymyristoyl] glucosamine N-acyltransferase activity; N-palmitoyltransferase activity; O-acyltransferase activity; acylglycerol O-acyltransferase activity; O-acetyltransferase activity; benzoyl acetate-CoA thiolase activity; transferase activity; sinapoyltransferase activity; protein-cysteine S-myristoyltransferase activity; S-acyltransferase activity; N-succinyltransferase activity; myristoyltransferase activity; acetyltransferase activity; transferase activity, transferring acyl groups; L-2-aminoadipate N-acetyltransferase activity; 1-acylglycerol-3-phosphate O-acyltransferase activity Biological Process: metabolic process; multicellular organismal development; lipid metabolic process; phospholipid biosynthetic process

Research Articles on LCLAT1	**1.** pathological cardiolipin remodeling by ALCAT1 linked to the pathogenesis of nonalcoholic fatty liver diseases
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