ACSF3 siRNA – Acyl-Coa Synthetase Family Member 3, Mitochondrial Isoform 1 (Human)

PRODUCT OVERVIEW

Product Name	ACSF3, siRNA
Full Product Name	ACSF3 siRNA (Human)
Product Gene Name	ACSF3 sirna
Product Synonym Names	Acyl-CoA synthetase family member 3 mitochondrial
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	ACSF3 siRNA (Human) 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	64,130 Da
OMIM	614245
3D Structure	ModBase 3D Structure for Q4G176
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 human ACSF3 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 ACSF3 sirna	RNA Interference (RNAi)
Related Product Information for ACSF3 sirna	MBS8211805 is an siRNA targeting ACSF3. Also known as ACSF3 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit ACSF3 expression using RNA interference
Other Notes	Small volumes of ACSF3 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 ACSF3. It may not necessarily be applicable to this product.

NCBI GI #	187761345
NCBI GeneID	197322
NCBI Accession #	NP_001120686.1
UniProt Primary Accession #	Q4G176
UniProt Secondary Accession #	Q6INA0; Q8N2F7; A8K4J8; C9JQL6
UniProt Related Accession #	Q4G176
GenBank Nucleotide #	NM_001127214.3
NCBI Official Full Name	acyl-CoA synthetase family member 3, mitochondrial isoform 1
NCBI Official Synonym Full Names	acyl-CoA synthetase family member 3
NCBI Official Symbol	ACSF3
UniProt Protein Name	Acyl-CoA synthetase family member 3, mitochondrial
Protein Family	Acyl-CoA synthetase family
UniProt Gene Name	ACSF3
UniProt Entry Name	ACSF3_HUMAN
NCBI Protein Information	acyl-CoA synthetase family member 3, mitochondrial
NCBI Summary for ACSF3	This gene encodes a member of the acyl-CoA synthetase family of enzymes that activate fatty acids by catalyzing the formation of a thioester linkage between fatty acids and coenzyme A. The encoded protein is localized to mitochondria, has high specificity for malonate and methylmalonate and possesses malonyl-CoA synthetase activity. Mutations in this gene are a cause of combined malonic and methylmalonic aciduria. Alternatively spliced transcript variants have been observed for this gene. [provided by RefSeq, Sep 2013]
UniProt Comments for ACSF3	ACSF3: Catalyzes the initial reaction in intramitochondrial fatty acid synthesis, by activating malonate and methylmalonate, but not acetate, into their respective CoA thioester. May have some preference toward very-long-chain substrates. Defects in ACSF3 are the cause of combined malonic and methylmalonic aciduria (CMAMMA). A metabolic disease characterized by malonic and methylmalonic aciduria, with urinary excretion of much larger amounts of methylmalonic acid than malonic acid, in the presence of normal malonyl-CoA decarboxylase activity. Clinical features include coma, ketoacidosis, hypoglycemia, failure to thrive, microcephaly, dystonia, axial hypotonia and/or developmental delay, and neurologic manifestations including seizures, psychiatric disease and/or cognitive decline. Belongs to the ATP-dependent AMP-binding enzyme family. Protein type: EC 6.2.1.-; Ligase; EC 6.-.-.- Chromosomal Location of Human Ortholog: 16q24.3 Cellular Component: mitochondrion Molecular Function: acid-thiol ligase activity; ATP binding Biological Process: fatty acid metabolic process; fatty acid biosynthetic process Disease: Combined Malonic And Methylmalonic Aciduria
Research Articles on ACSF3	**1.** ACSF3 was significantly upregulated, and was involved in fatty acid and lipid metabolism and accelerated liver injury in alcoholic liver disease.
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