ASAH2 siRNA – Neutral Ceramidase Isoform B (Human)

PRODUCT OVERVIEW

Product Name	ASAH2, siRNA
Full Product Name	ASAH2 siRNA (Human)
Product Gene Name	ASAH2 sirna
Product Synonym Names	HNAC1; Neutral ceramidase; N-CDase; NCDase; Acylsphingosine deacylase 2; BCDase; LCDase; hCD; N-acylsphingosine amidohydrolase 2; Non-lysosomal ceramidase
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	ASAH2 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	81,718 Da
OMIM	611202
3D Structure	ModBase 3D Structure for Q9NR71
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 ASAH2 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 ASAH2 sirna	RNA Interference (RNAi)
Related Product Information for ASAH2 sirna	MBS8233341 is an siRNA targeting ASAH2. Also known as ASAH2 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit ASAH2 expression using RNA interference
Other Notes	Small volumes of ASAH2 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 ASAH2. It may not necessarily be applicable to this product.

NCBI GI #	221307475
NCBI GeneID	56624
NCBI Accession #	NP_001137446.1
UniProt Primary Accession #	Q9NR71
UniProt Secondary Accession #	Q3KNU1; Q5SNT7; Q5SZP6; Q5SZP7; Q5T1D5; Q71ME6
UniProt Related Accession #	Q9NR71
GenBank Nucleotide #	NM_001143974.1
NCBI Official Full Name	neutral ceramidase isoform b
NCBI Official Synonym Full Names	N-acylsphingosine amidohydrolase (non-lysosomal ceramidase) 2
NCBI Official Symbol	ASAH2
NCBI Official Synonym Symbols	HNAC1; BCDase; LCDase; NCDase; N-CDase
UniProt Protein Name	Neutral ceramidase
UniProt Synonym Protein Names	Acylsphingosine deacylase 2; BCDase; LCDase; hCD
Protein Family	Neutral ceramidase
UniProt Gene Name	ASAH2
UniProt Synonym Gene Names	HNAC1; N-CDase; NCDase; hCD
UniProt Entry Name	ASAH2_HUMAN
NCBI Protein Information	neutral ceramidase
NCBI Summary for ASAH2	Ceramidases (EC 3.5.1.23), such as ASAH2, catalyze hydrolysis of the N-acyl linkage of ceramide, a second messenger in a variety of cellular events, to produce sphingosine. Sphingosine exerts both mitogenic and apoptosis-inducing activities, and its phosphorylated form functions as an intra- and intercellular second messenger (see MIM 603730) (Mitsutake et al., 2001 [PubMed 11328816]).[supplied by OMIM, Mar 2008]
UniProt Comments for ASAH2	ASAH2: Hydrolyzes the sphingolipid ceramide into sphingosine and free fatty acid at an optimal pH of 6.5-8.5. Acts as a key regulator of sphingolipid signaling metabolites by generating sphingosine at the cell surface. Acts as a repressor of apoptosis both by reducing C16-ceramide, thereby preventing ceramide-induced apoptosis, and generating sphingosine, a precursor of the antiapoptotic factor sphingosine 1-phosphate. Probably involved in the digestion of dietary sphingolipids in intestine by acting as a key enzyme for the catabolism of dietary sphingolipids and regulating the levels of bioactive sphingolipid metabolites in the intestinal tract. Belongs to the neutral ceramidase family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Membrane protein, integral; Hydrolase; Lipid Metabolism - sphingolipid; EC 3.5.1.23 Chromosomal Location of Human Ortholog: 10q11.21 Cellular Component: mitochondrion; plasma membrane; integral to membrane Molecular Function: ceramidase activity Biological Process: sphingolipid metabolic process; apoptosis; glycosphingolipid metabolic process; signal transduction; ceramide metabolic process
Research Articles on ASAH2	**1.** These results demonstrate for the first time that adiponectin inhibits TNFalpha-induced inflammatory response via Cav1-mediated ceramidase recruitment and activation in an AdipoR1-dependent fashion.
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