SAT1 siRNA – Diamine Acetyltransferase 1 (Human)

PRODUCT OVERVIEW

Product Name	SAT1, siRNA
Full Product Name	SAT1 siRNA (Human)
Product Gene Name	SAT1 sirna
Product Synonym Names	SAT; Diamine acetyltransferase 1; Polyamine N-acetyltransferase 1; Putrescine acetyltransferase; Spermidine/spermine N(1)-acetyltransferase 1; SSAT; SSAT-1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	SAT1 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	20,024 Da
OMIM	308800
3D Structure	ModBase 3D Structure for P21673
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 SAT1 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 SAT1 sirna	RNA Interference (RNAi)
Related Product Information for SAT1 sirna	MBS8233852 is an siRNA targeting SAT1. Also known as SAT1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit SAT1 expression using RNA interference
Other Notes	Small volumes of SAT1 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 SAT1. It may not necessarily be applicable to this product.

NCBI GI #	4506789
NCBI GeneID	6303
NCBI Accession #	NP_002961.1
UniProt Primary Accession #	P21673
UniProt Related Accession #	P21673
GenBank Nucleotide #	NM_002970.3
NCBI Official Full Name	diamine acetyltransferase 1
NCBI Official Synonym Full Names	spermidine/spermine N1-acetyltransferase 1
NCBI Official Symbol	SAT1
NCBI Official Synonym Symbols	SAT; DC21; KFSD; SSAT; KFSDX; SSAT-1
UniProt Protein Name	Diamine acetyltransferase 1
UniProt Synonym Protein Names	Polyamine N-acetyltransferase 1; Putrescine acetyltransferase; Spermidine/spermine N(1)-acetyltransferase 1; SSAT; SSAT-1
Protein Family	Diamine acetyltransferase
UniProt Gene Name	SAT1
UniProt Synonym Gene Names	SAT; SSAT; SSAT-1
UniProt Entry Name	SAT1_HUMAN
NCBI Protein Information	diamine acetyltransferase 1
NCBI Summary for SAT1	The protein encoded by this gene belongs to the acetyltransferase family, and is a rate-limiting enzyme in the catabolic pathway of polyamine metabolism. It catalyzes the acetylation of spermidine and spermine, and is involved in the regulation of the intracellular concentration of polyamines and their transport out of cells. Defects in this gene are associated with keratosis follicularis spinulosa decalvans (KFSD). Alternatively spliced transcripts have been found for this gene.[provided by RefSeq, Sep 2009]
UniProt Comments for SAT1	SAT: Enzyme which catalyzes the acetylation of polyamines. Substrate specificity: norspermidine = spermidine >> spermine > N(1)-acetylspermine > putrescine. This highly regulated enzyme allows a fine attenuation of the intracellular concentration of polyamines. Also involved in the regulation of polyamine transport out of cells. Acts on 1,3-diaminopropane, 1,5-diaminopentane, putrescine, spermidine (forming N(1)- and N(8)-acetylspermidine), spermine, N(1)-acetylspermidine and N(8)-acetylspermidine. Defects in SAT1 may be a cause of keratosis follicularis spinulosa decalvans X-linked (KFSDX). A rare disorder affecting the skin and the eye. Affected men show thickening of the skin of the neck, ears, and extremities, especially the palms and soles, loss of eyebrows, eyelashes and beard, thickening of the eyelids with blepharitis and ectropion, and corneal degeneration. Belongs to the acetyltransferase family. Protein type: EC 2.3.1.57; Amino Acid Metabolism - arginine and proline; Acetyltransferase Chromosomal Location of Human Ortholog: Xp22.1 Cellular Component: intracellular; cytosol Molecular Function: protein binding; diamine N-acetyltransferase activity; spermidine binding Biological Process: spermidine acetylation; polyamine biosynthetic process; angiogenesis; putrescine catabolic process; polyamine metabolic process; regulation of cell proliferation Disease: Keratosis Follicularis Spinulosa Decalvans, X-linked
Research Articles on SAT1	**1.** Enhanced SSAT expression by proximal tubule epithelial cells leads to tubular damage, and its deficiency reduces the severity of renal I/R injury through reduction of cellular damage and modulation of the innate immune response

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