SMOX siRNA – Spermine Oxidase Isoform 6 (Human)

PRODUCT OVERVIEW

Product Name	SMOX, siRNA
Full Product Name	SMOX siRNA (Human)
Product Gene Name	SMOX sirna
Product Synonym Names	C20orf16; SMO; Spermine oxidase; Polyamine oxidase 1; PAO-1; PAOh1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	SMOX 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	65,007 Da
OMIM	615854
3D Structure	ModBase 3D Structure for Q9NWM0
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 SMOX 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 SMOX sirna	RNA Interference (RNAi)
Related Product Information for SMOX sirna	MBS8229813 is an siRNA targeting SMOX. Also known as SMOX siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit SMOX expression using RNA interference
Other Notes	Small volumes of SMOX 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 SMOX. It may not necessarily be applicable to this product.

NCBI GI #	397739047
NCBI GeneID	54498
NCBI Accession #	NP_001257620.1
UniProt Primary Accession #	Q9NWM0
UniProt Secondary Accession #	Q5TE26; Q5TE27; Q6UY28; Q8IX00; Q96LC3; Q96LC4; Q96QT3; A2A2P5; A2A2P6; A8BE87; D3DVZ4
UniProt Related Accession #	Q9NWM0
GenBank Nucleotide #	NM_001270691.1
NCBI Official Full Name	spermine oxidase isoform 6
NCBI Official Synonym Full Names	spermine oxidase
NCBI Official Symbol	SMOX
NCBI Official Synonym Symbols	PAO; SMO; PAO1; PAOH; PAO-1; PAOH1; C20orf16
UniProt Protein Name	Spermine oxidase
UniProt Synonym Protein Names	Polyamine oxidase 1; PAO-1; PAOh1
Protein Family	Spermine oxidase
UniProt Gene Name	SMOX
UniProt Synonym Gene Names	C20orf16; SMO; PAO-1; PAOh1
UniProt Entry Name	SMOX_HUMAN
NCBI Protein Information	spermine oxidase
NCBI Summary for SMOX	Polyamines are ubiquitous polycationic alkylamines which include spermine, spermidine, putrescine, and agmatine. These molecules participate in a broad range of cellular functions which include cell cycle modulation, scavenging reactive oxygen species, and the control of gene expression. These molecules also play important roles in neurotransmission through their regulation of cell-surface receptor activity, involvement in intracellular signalling pathways, and their putative roles as neurotransmitters. This gene encodes an FAD-containing enzyme that catalyzes the oxidation of spermine to spermadine and secondarily produces hydrogen peroxide. Multiple transcript variants encoding different isoenzymes have been identified for this gene, some of which have failed to demonstrate significant oxidase activity on natural polyamine substrates. The characterized isoenzymes have distinctive biochemical characteristics and substrate specificities, suggesting the existence of additional levels of complexity in polyamine catabolism. [provided by RefSeq, Jul 2012]
UniProt Comments for SMOX	SMOX: Flavoenzyme which catalyzes the oxidation of spermine to spermidine. Can also use N(1)-acetylspermine and spermidine as substrates, with different affinity depending on the isoform (isozyme) and on the experimental conditions. Plays an important role in the regulation of polyamine intracellular concentration and has the potential to act as a determinant of cellular sensitivity to the antitumor polyamine analogs. May contribute to beta-alanine production via aldehyde dehydrogenase conversion of 3-amino-propanal. Belongs to the flavin monoamine oxidase family. 6 isoforms of the human protein are produced by alternative splicing. Protein type: Oxidoreductase; EC 1.5.3.16 Chromosomal Location of Human Ortholog: 20p13 Cellular Component: cytoplasm; cytosol; nucleus Molecular Function: polyamine oxidase activity Biological Process: spermine catabolic process; xenobiotic metabolic process; polyamine biosynthetic process; polyamine catabolic process; polyamine metabolic process
Research Articles on SMOX	**1.** study postulates a mechanism for SAT1 and SMOX down-regulation by post-transcriptional activity of miRNAs.

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