TARS2 siRNA – Threonine--Trna Ligase, Mitochondrial Isoform C (Human)

PRODUCT OVERVIEW

Product Name	TARS2, siRNA
Full Product Name	TARS2 siRNA (Human)
Product Gene Name	TARS2 sirna
Product Synonym Names	TARSL1; Threonine--tRNA ligase mitochondrial; Threonyl-tRNA synthetase; ThrRS; Threonyl-tRNA synthetase-like 1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	TARS2 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	66,372 Da
OMIM	612805
3D Structure	ModBase 3D Structure for Q9BW92
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 TARS2 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 TARS2 sirna	RNA Interference (RNAi)
Related Product Information for TARS2 sirna	MBS8208856 is an siRNA targeting TARS2. Also known as TARS2 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit TARS2 expression using RNA interference
Other Notes	Small volumes of TARS2 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 TARS2. It may not necessarily be applicable to this product.

NCBI GI #	429535839
NCBI GeneID	80222
NCBI Accession #	NP_001258825.1
UniProt Primary Accession #	Q9BW92
UniProt Secondary Accession #	Q53GW7; Q96I50; Q9H9V2
UniProt Related Accession #	Q9BW92
GenBank Nucleotide #	NM_001271896.1
NCBI Official Full Name	threonine--tRNA ligase, mitochondrial isoform c
NCBI Official Synonym Full Names	threonyl-tRNA synthetase 2, mitochondrial (putative)
NCBI Official Symbol	TARS2
NCBI Official Synonym Symbols	thrRS; TARSL1; COXPD21
UniProt Protein Name	Threonine--tRNA ligase, mitochondrial
UniProt Synonym Protein Names	Threonyl-tRNA synthetase; ThrRS; Threonyl-tRNA synthetase-like 1
UniProt Gene Name	TARS2
UniProt Synonym Gene Names	TARSL1; ThrRS
UniProt Entry Name	SYTM_HUMAN
NCBI Protein Information	threonine--tRNA ligase, mitochondrial
NCBI Summary for TARS2	This gene encodes a member of the class-II aminoacyl-tRNA synthetase family. The encoded protein is a mitochondrial aminoacyl-tRNA synthetase. Alternative splicing results in multiple transcript variants. A related pseudogene has been identified on chromosome 4. [provided by RefSeq, Dec 2012]
UniProt Comments for TARS2	TARS2: Belongs to the class-II aminoacyl-tRNA synthetase family. Protein type: Ligase; EC 6.1.1.3; Mitochondrial Chromosomal Location of Human Ortholog: 1q21.3 Cellular Component: mitochondrial matrix Molecular Function: threonine-tRNA ligase activity; ATP binding Biological Process: tRNA aminoacylation for protein translation; gene expression Disease: Combined Oxidative Phosphorylation Deficiency 21
Research Articles on TARS2	**1.** TARS2 mutations caused fatal mitochondrial encephalomyopathy in two siblings.
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