WARS siRNA – Tryptophan--Trna Ligase, Cytoplasmic Isoform a (Human)

PRODUCT OVERVIEW

Product Name	WARS, siRNA
Full Product Name	WARS siRNA (Human)
Product Gene Name	WARS sirna
Product Synonym Names	IFI53; WRS; Tryptophan--tRNA ligase cytoplasmic; Interferon-induced protein 53; IFP53; Tryptophanyl-tRNA synthetase; TrpRS; hWRS
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	WARS 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	48,852 Da
OMIM	191050
3D Structure	ModBase 3D Structure for P23381
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 WARS 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 WARS sirna	RNA Interference (RNAi)
Related Product Information for WARS sirna	MBS8229144 is an siRNA targeting WARS. Also known as WARS siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit WARS expression using RNA interference
Other Notes	Small volumes of WARS 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 WARS. It may not necessarily be applicable to this product.

NCBI GI #	47419914
NCBI GeneID	7453
NCBI Accession #	NP_004175.2
UniProt Primary Accession #	P23381
UniProt Secondary Accession #	P78535; Q502Y0; Q53XB6; Q9UDI5; Q9UDL3; A6NGN1; A6NID3
UniProt Related Accession #	P23381
GenBank Nucleotide #	NM_004184.3
NCBI Official Full Name	tryptophan--tRNA ligase, cytoplasmic isoform a
NCBI Official Synonym Full Names	tryptophanyl-tRNA synthetase
NCBI Official Symbol	WARS
NCBI Official Synonym Symbols	IFI53; IFP53; GAMMA-2
UniProt Protein Name	Tryptophan--tRNA ligase, cytoplasmic
UniProt Synonym Protein Names	Interferon-induced protein 53; IFP53
Protein Family	Tryptophan--tRNA ligase
UniProt Gene Name	WARS
UniProt Synonym Gene Names	IFI53; WRS; IFP53; TrpRS; hWRS
UniProt Entry Name	SYWC_HUMAN
NCBI Protein Information	tryptophan--tRNA ligase, cytoplasmic
NCBI Summary for WARS	Aminoacyl-tRNA synthetases catalyze the aminoacylation of tRNA by their cognate amino acid. Because of their central role in linking amino acids with nucleotide triplets contained in tRNAs, aminoacyl-tRNA synthetases are thought to be among the first proteins that appeared in evolution. Two forms of tryptophanyl-tRNA synthetase exist, a cytoplasmic form, named WARS, and a mitochondrial form, named WARS2. Tryptophanyl-tRNA synthetase (WARS) catalyzes the aminoacylation of tRNA(trp) with tryptophan and is induced by interferon. Tryptophanyl-tRNA synthetase belongs to the class I tRNA synthetase family. Four transcript variants encoding two different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]
UniProt Comments for WARS	WARS: Isoform 1, isoform 2 and T1-TrpRS have aminoacylation activity while T2-TrpRS lacks it. Isoform 2, T1-TrpRS and T2-TrpRS possess angiostatic activity whereas isoform 1 lacks it. T2-TrpRS inhibits fluid shear stress-activated responses of endothelial cells. Regulates ERK, Akt, and eNOS activation pathways that are associated with angiogenesis, cytoskeletal reorganization and shear stress-responsive gene expression. Belongs to the class-I aminoacyl-tRNA synthetase family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Translation; EC 6.1.1.2; Amino Acid Metabolism - tryptophan; Ligase Chromosomal Location of Human Ortholog: 14q32.31 Cellular Component: cytoplasm; nucleus; cytosol Molecular Function: protein binding; tryptophan-tRNA ligase activity; ATP binding Biological Process: negative regulation of cell proliferation; tryptophanyl-tRNA aminoacylation; tRNA aminoacylation for protein translation; translation; gene expression; angiogenesis; regulation of angiogenesis
Research Articles on WARS	**1.** Genes within recently identified loci associated with waist-hip ratio (WHR) exhibit fat depot-specific mRNA expression, which correlates with obesity-related traits. Adipose tissue (AT) mRNA expression of 6 genes (TBX15/WARS2, STAB1, PIGC, ZNRF3, GRB14)

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