TAT siRNA – Tyrosine Aminotransferase (Human)

PRODUCT OVERVIEW

Product Name	TAT, siRNA
Full Product Name	TAT siRNA (Human)
Product Gene Name	TAT sirna
Product Synonym Names	Tyrosine aminotransferase; TAT; L-tyrosine:2-oxoglutarate aminotransferase
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	TAT 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	50,399 Da
OMIM	276600
3D Structure	ModBase 3D Structure for P17735
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 TAT 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 TAT sirna	RNA Interference (RNAi)
Related Product Information for TAT sirna	MBS8215447 is an siRNA targeting TAT. Also known as TAT siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit TAT expression using RNA interference
Other Notes	Small volumes of TAT 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 TAT. It may not necessarily be applicable to this product.

NCBI GI #	4507369
NCBI GeneID	6898
NCBI Accession #	NP_000344.1
UniProt Primary Accession #	P17735
UniProt Secondary Accession #	B2R8I1; D3DWS2
UniProt Related Accession #	P17735
GenBank Nucleotide #	NM_000353.2
NCBI Official Full Name	tyrosine aminotransferase
NCBI Official Synonym Full Names	tyrosine aminotransferase
NCBI Official Symbol	TAT
UniProt Protein Name	Tyrosine aminotransferase
UniProt Synonym Protein Names	L-tyrosine:2-oxoglutarate aminotransferase
Protein Family	Protein
UniProt Gene Name	TAT
UniProt Synonym Gene Names	TAT
UniProt Entry Name	ATTY_HUMAN
NCBI Protein Information	tyrosine aminotransferase
NCBI Summary for TAT	This nuclear gene encodes a mitochondrial protein tyrosine aminotransferase which is present in the liver and catalyzes the conversion of L-tyrosine into p-hydroxyphenylpyruvate. Mutations in this gene cause tyrosinemia (type II, Richner-Hanhart syndrome), a disorder accompanied by major skin and corneal lesions, with possible mental retardation. A regulator gene for tyrosine aminotransferase is X-linked. [provided by RefSeq, Jul 2008]
UniProt Comments for TAT	TAT: Transaminase involved in tyrosine breakdown. Converts tyrosine to p-hydroxyphenylpyruvate. Can catalyze the reverse reaction, using glutamic acid, with 2-oxoglutarate as cosubstrate (in vitro). Has much lower affinity and transaminase activity towards phenylalanine. Defects in TAT are the cause of tyrosinemia type 2 (TYRO2); also known as Richner-Hanhart syndrome. TYRO2 is an inborn error of metabolism characterized by elevations of tyrosine in the blood and urine, and oculocutaneous manifestations. Typical features include palmoplantar keratosis, painful corneal ulcers, and mental retardation. Belongs to the class-I pyridoxal-phosphate-dependent aminotransferase family. Protein type: Amino Acid Metabolism - tyrosine; Amino Acid Metabolism - phenylalanine; EC 2.6.1.5; Transferase; Amino Acid Metabolism - cysteine and methionine; Cofactor and Vitamin Metabolism - ubiquinone and other terpenoid-quinone biosynthesis; Amino Acid Metabolism - phenylalanine, tyrosine and tryptophan biosynthesis; Mitochondrial Chromosomal Location of Human Ortholog: 16q22.1 Cellular Component: mitochondrion; cytosol Molecular Function: amino acid binding; tyrosine transaminase activity; pyridoxal phosphate binding Biological Process: response to mercury ion; L-phenylalanine catabolic process; glutamate metabolic process; tyrosine catabolic process; response to glucocorticoid stimulus; biosynthetic process; response to oxidative stress; 2-oxoglutarate metabolic process Disease: Tyrosinemia, Type Ii
Research Articles on TAT	**1.** Two known mutations and one novel mutation was found in the TAT gene of Tunesian Richner-Hanhart syndrome patients. The geographical distribution of RHS mutations shows regional specificities.

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