TPM2 siRNA – Tropomyosin Beta Chain Isoform Tpm2.1sm/Cy (Rat)

PRODUCT OVERVIEW

Product Name	TPM2, siRNA
Full Product Name	TPM2 siRNA (Rat)
Product Gene Name	TPM2 sirna
Product Synonym Names	Tropomyosin beta chain; Beta-tropomyosin; Tropomyosin-2
Host	Synthetic
Species Reactivity	Rat
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	TPM2 siRNA (Rat) 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	32,958 Da
3D Structure	ModBase 3D Structure for P58775
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 rat TPM2 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 TPM2 sirna	RNA Interference (RNAi)
Related Product Information for TPM2 sirna	MBS8235661 is an siRNA targeting TPM2. Also known as TPM2 siRNA (Rat). Reactive in Rat. Host: Synthetic. siRNA to inhibit TPM2 expression using RNA interference
Other Notes	Small volumes of TPM2 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 TPM2. It may not necessarily be applicable to this product.

NCBI GI #	66730475
NCBI GeneID	500450

NCBI Accession #	NP_001019516.1
UniProt Primary Accession #	P58775
UniProt Secondary Accession #	P02560; P06395
UniProt Related Accession #	P58775
GenBank Nucleotide #	NM_001024345.2
NCBI Official Full Name	tropomyosin beta chain isoform Tpm2.1sm/cy
NCBI Official Synonym Full Names	tropomyosin 2, beta
NCBI Official Symbol	Tpm2
UniProt Protein Name	Tropomyosin beta chain
UniProt Synonym Protein Names	Beta-tropomyosin; Tropomyosin-2
Protein Family	Tropomyosin
UniProt Gene Name	Tpm2
UniProt Entry Name	TPM2_RAT
NCBI Protein Information	tropomyosin beta chain
UniProt Comments for TPM2	TPM2: Binds to actin filaments in muscle and non-muscle cells. Plays a central role, in association with the troponin complex, in the calcium dependent regulation of vertebrate striated muscle contraction. Smooth muscle contraction is regulated by interaction with caldesmon. In non-muscle cells is implicated in stabilizing cytoskeleton actin filaments. The non-muscle isoform may have a role in agonist-mediated receptor internalization. Defects in TPM2 are the cause of nemaline myopathy type 4 (NEM4). A form of nemaline myopathy. Nemaline myopathies are muscular disorders characterized by muscle weakness of varying severity and onset, and abnormal thread-or rod-like structures in muscle fibers on histologic examination. Nemaline myopathy type 4 presents from infancy to childhood with hypotonia and moderate-to-severe proximal weakness with minimal or no progression. Major motor milestones are delayed but independent ambulation is usually achieved, although a wheelchair may be needed in later life. Defects in TPM2 are the cause of distal arthrogryposis type 1A (DA1A). A form of distal arthrogryposis, a disease characterized by congenital joint flexures or contractures that mainly involve the distal parts of the limbs, and affect two or more different body areas in the absence of a primary neurological or muscle disease. Distal arthrogryposis type 1 is characterized largely by camptodactyly and clubfoot. Hypoplasia and/or absence of some interphalangeal creases is common. The shoulders and hips are less frequently affected. Belongs to the tropomyosin family. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Motility/polarity/chemotaxis; Motor Cellular Component: cytoskeleton; cytoplasm Molecular Function: actin binding Biological Process: regulation of ATPase activity
Precautions	All of MyBioSource's Products are for scientific laboratory research purposes and are not for diagnostic, therapeutics, prophylactic or in vivo use. Through your purchase, you expressly represent and warrant to MyBioSource that you will properly test and use any Products purchased from MyBioSource in accordance with industry standards. MyBioSource and its authorized distributors reserve the right to refuse to process any order where we reasonably believe that the intended use will fall outside of our acceptable guidelines.
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