MYH2 siRNA – Myosin-2 (Human)

PRODUCT OVERVIEW

Product Name	MYH2, siRNA
Full Product Name	MYH2 siRNA (Human)
Product Gene Name	MYH2 sirna
Product Synonym Names	MYHSA2; Myosin-2; Myosin heavy chain 2; Myosin heavy chain 2a; MyHC-2a; Myosin heavy chain IIa; MyHC-IIa; Myosin heavy chain. skeletal muscle. adult 2
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	MYH2 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	79,880 Da
OMIM	160740
3D Structure	ModBase 3D Structure for Q9UKX2
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 MYH2 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 MYH2 sirna	RNA Interference (RNAi)
Related Product Information for MYH2 sirna	MBS8218601 is an siRNA targeting MYH2. Also known as MYH2 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit MYH2 expression using RNA interference
Other Notes	Small volumes of MYH2 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 MYH2. It may not necessarily be applicable to this product.

NCBI GI #	153791586
NCBI GeneID	4620
NCBI Accession #	NP_001093582.1
UniProt Primary Accession #	Q9UKX2
UniProt Secondary Accession #	Q14322; Q16229; Q567P6; Q86T56; A0AVL4
UniProt Related Accession #	Q9UKX2
GenBank Nucleotide #	NM_001100112.1
NCBI Official Full Name	myosin-2
NCBI Official Synonym Full Names	myosin, heavy chain 2, skeletal muscle, adult
NCBI Official Symbol	MYH2
NCBI Official Synonym Symbols	IBM3; MYH2A; MYPOP; MYHSA2; MYHas8; MyHC-2A; MyHC-IIa
UniProt Protein Name	Myosin-2
UniProt Synonym Protein Names	Myosin heavy chain 2; Myosin heavy chain 2a; MyHC-2a; Myosin heavy chain IIa; MyHC-IIa; Myosin heavy chain, skeletal muscle, adult 2
UniProt Gene Name	MYH2
UniProt Synonym Gene Names	MYHSA2; MyHC-2a; MyHC-IIa
UniProt Entry Name	MYH2_HUMAN
NCBI Protein Information	myosin-2
NCBI Summary for MYH2	Myosins are actin-based motor proteins that function in the generation of mechanical force in eukaryotic cells. Muscle myosins are heterohexamers composed of 2 myosin heavy chains and 2 pairs of nonidentical myosin light chains. This gene encodes a member of the class II or conventional myosin heavy chains, and functions in skeletal muscle contraction. This gene is found in a cluster of myosin heavy chain genes on chromosome 17. A mutation in this gene results in inclusion body myopathy-3. Multiple alternatively spliced variants, encoding the same protein, have been identified. [provided by RefSeq, Sep 2009]
UniProt Comments for MYH2	MYH2: Muscle contraction. Required for cytoskeleton organization. Defects in MYH2 are the cause of inclusion body myopathy type 3 (IBM3). Hereditary inclusion body myopathies constitute a group of neuromuscular disorders characterized by slowly progressive distal and proximal weakness and a typical muscle pathology including rimmed vacuoles and filamentous inclusions. IBM3 is a variant of hereditary inclusion body myopathies and is characterized by autosomal dominant myopathy with joint contracture, ophthalmoplegia and rimmed vacuoles. Morphological analysis of muscle biopsies from patients indicate that the type 2A fibers frequently were abnormal, whereas other fiber types appeared normal. Protein type: Motility/polarity/chemotaxis; Motor Chromosomal Location of Human Ortholog: 17p13.1 Cellular Component: Golgi apparatus; sarcomere; protein complex; myofibril; contractile ring; muscle myosin complex; intercellular junction; cytosol; A band Molecular Function: microfilament motor activity; calmodulin binding; protein binding; actin binding; ATP binding Biological Process: muscle contraction; plasma membrane repair; metabolic process; innate immune response; response to activity; muscle filament sliding Disease: Inclusion Body Myopathy 3, Autosomal Dominant
Research Articles on MYH2	**1.** Data shoe that five of the patients were homozygous for myosin heavy chain 2 (MYH2) missense mutations, one patient was compound heterozygous for a missense and a nonsense mutation and one patient was homozygous for a frame-shift MYH2 mutation.

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