DYNLT1 siRNA – Dynein Light Chain Tctex-Type 1 Isoform 1 (Human)

PRODUCT OVERVIEW

Product Name	DYNLT1, siRNA
Full Product Name	DYNLT1 siRNA (Human)
Product Gene Name	DYNLT1 sirna
Product Synonym Names	TCTEL1; TCTEX-1; TCTEX1; Dynein light chain Tctex-type 1; Protein CW-1; T-complex testis-specific protein 1 homolog
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	DYNLT1 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	12,452 Da
OMIM	601554
3D Structure	ModBase 3D Structure for P63172
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 DYNLT1 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 DYNLT1 sirna	RNA Interference (RNAi)
Related Product Information for DYNLT1 sirna	MBS8235737 is an siRNA targeting DYNLT1. Also known as DYNLT1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit DYNLT1 expression using RNA interference
Other Notes	Small volumes of DYNLT1 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 DYNLT1. It may not necessarily be applicable to this product.

NCBI GI #	5730085
NCBI GeneID	6993
NCBI Accession #	NP_006510.1
UniProt Primary Accession #	P63172
UniProt Secondary Accession #	Q15763; Q5VTU4
UniProt Related Accession #	P63172
GenBank Nucleotide #	NM_006519.3
NCBI Official Full Name	dynein light chain Tctex-type 1 isoform 1
NCBI Official Synonym Full Names	dynein, light chain, Tctex-type 1
NCBI Official Symbol	DYNLT1
NCBI Official Synonym Symbols	CW-1; TCTEL1; tctex-1
UniProt Protein Name	Dynein light chain Tctex-type 1
UniProt Synonym Protein Names	Protein CW-1; T-complex testis-specific protein 1 homolog
Protein Family	Dynein
UniProt Gene Name	DYNLT1
UniProt Synonym Gene Names	TCTEL1; TCTEX-1; TCTEX1
UniProt Entry Name	DYLT1_HUMAN
NCBI Protein Information	dynein light chain Tctex-type 1
NCBI Summary for DYNLT1	This gene encodes a component of the motor complex, cytoplasmic dynein, which transports cellular cargo along microtubules in the cell. The encoded protein regulates the length of primary cilia which are sensory organelles found on the surface of cells. The protein encoded by this gene interacts with viral proteins, like the minor capsid protein L2 of human papillomavirus, and is required for dynein-mediated delivery of the viral nucleic acid to the host nucleus. This protein interacts with oncogenic nucleoporins to disrupt gene regulation and cause leukemic transformation. Pseudogenes of this gene are present on chromosomes 4 and 17. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Apr 2014]

UniProt Comments for DYNLT1	DYNLT1: Acts as one of several non-catalytic accessory components of the cytoplasmic dynein 1 complex that are thought to be involved in linking dynein to cargos and to adapter proteins that regulate dynein function. Cytoplasmic dynein 1 acts as a motor for the intracellular retrograde motility of vesicles and organelles along microtubules. Binds to transport cargos and is involved in apical cargo transport such as rhodopsin-bearing vesicles in polarized epithelia. Is involved in intracellular targeting of D-type retrovirus gag polyproteins to the cytoplasmic assembly site. May also be a accessory component of axonemal dynein. Homodimer (Probable). The cytoplasmic dynein 1 complex consists of two catalytic heavy chains (HCs) and a number of non- catalytic subunits presented by intermediate chains (ICs), light intermediate chains (LICs) and light chains (LCs); the composition seems to vary in respect to the IC, LIC and LC composition. The heavy chain homodimer serves as a scaffold for the probable homodimeric assembly of the respective non-catalytic subunits. The ICs and LICs bind directly to the HC dimer and the LCs assemble on the IC dimer. DYNLT1 and DYNLT3 compete for association with dynein IC (DYNC1I1 or DYNC1I2). Self-associates. Interacts with DYNC1I1 and DYNC1I2. Interacts with RHO. Interacts with DOC2A, DOC2B and SCN10A. Interacts with PVR. Interacts with SVIL isoform 2. Interacts with BMPR2. Interacts with GNB1; the interaction occurs in presence of guanine nucleotide-binding protein G(T) subunit gamma; the interaction diminishes the association of DYNLT1 with dynein IC (DYNC1I1 or DYNC1I2). Interacts with GNB2, GNB3 and GNB5; the interactions occur in presence of guanine nucleotide-binding protein G(T) subunit gamma. Interacts with human papillomavirus 16 L2 protein; this interaction is essential for virus intracellular transport during entry. Expressed in heart, placenta, skeletal muscle kidney, pancreas, spleen, prostate, testis, ovary, ileum and colon. Expressed in lung endothelial and smooth muscle cells. Belongs to the dynein light chain Tctex-type family. Protein type: Motility/polarity/chemotaxis; Microtubule-binding; Motor Chromosomal Location of Human Ortholog: 6q25.2-q25.3 Cellular Component: Golgi apparatus; microtubule; cytoplasmic dynein complex; spindle Molecular Function: identical protein binding; protein binding; motor activity Biological Process: mitosis; intracellular transport of viral proteins in host cell; entry of virus into host cell; establishment of mitotic spindle orientation; cell division; metabolic process; regulation of G-protein coupled receptor protein signaling pathway; neurite morphogenesis; regulation of cytoskeleton organization and biogenesis; negative regulation of neurogenesis
Research Articles on DYNLT1	**1.** DYNLT1 is enriched at focal concentrations of CT850 on the chlamydial inclusion membrane that are known to interact with dynein and microtubules.
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