RNGTT siRNA – Mrna-Capping Enzyme Isoform B (Human)

PRODUCT OVERVIEW

Product Name	RNGTT, siRNA
Full Product Name	RNGTT siRNA (Human)
Product Gene Name	RNGTT sirna
Product Synonym Names	CAP1A; mRNA-capping enzyme; HCAP1; HCE
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	RNGTT 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	61,705 Da
OMIM	603512
3D Structure	ModBase 3D Structure for O60942
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 RNGTT 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 RNGTT sirna	RNA Interference (RNAi)
Related Product Information for RNGTT sirna	MBS827371 is an siRNA targeting RNGTT. Also known as RNGTT siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit RNGTT expression using RNA interference
Other Notes	Small volumes of RNGTT 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 RNGTT. It may not necessarily be applicable to this product.

NCBI GI #	556695469
NCBI GeneID	8732
NCBI Accession #	NP_001273355.1
UniProt Primary Accession #	O60942
UniProt Secondary Accession #	O43483; O60257; O60351; Q5TCW8; Q8WUM8; E1P513; E1P514
UniProt Related Accession #	O60942
GenBank Nucleotide #	NM_001286426.1
NCBI Official Full Name	mRNA-capping enzyme isoform b
NCBI Official Synonym Full Names	RNA guanylyltransferase and 5'-phosphatase
NCBI Official Symbol	RNGTT
NCBI Official Synonym Symbols	HCE; HCE1; hCAP; CAP1A
UniProt Protein Name	mRNA-capping enzyme
UniProt Synonym Protein Names	HCAP1; HCEIncluding the following 2 domains:Polynucleotide 5'-triphosphatase (EC:3.1.3.33)Alternative name(s):mRNA 5'-triphosphatase; TPase
UniProt Gene Name	RNGTT
UniProt Synonym Gene Names	CAP1A; TPase; GTase
UniProt Entry Name	MCE1_HUMAN
NCBI Protein Information	mRNA-capping enzyme
UniProt Comments for RNGTT	RNGTT: a bifunctional mRNA capping enzyme with RNA 5'-triphosphatase activity in the N-terminal part and mRNA guanyltransferase activity in the C-terminal part. Catalyzes the first two steps of cap formation: by removing the gamma-phosphate from the 5'-triphosphate end of nascent mRNA to yield a diphosphate end, and by transferring the gmp moiety of GTP to the 5'-diphosphate terminus. Four alternatively spliced human isoforms have been described. Isoform 1 and isoform 4 are expressed in cerebrum, cerebellum, thyroid, lung, heart, liver, kidney, spleen, large intestine, testis, skin and muscle. Isoforms 2, 3 and 4 lack mRNA 5'-guanylyltransferase activity due to disruptions of the GTPase domain. Protein type: EC 2.7.7.50; Phosphatase (non-protein); Transferase; Motility/polarity/chemotaxis; EC 3.1.3.33 Chromosomal Location of Human Ortholog: 6q16 Cellular Component: nucleoplasm; nucleus Molecular Function: polynucleotide 5'-phosphatase activity; GTP binding; mRNA guanylyltransferase activity; RNA guanylyltransferase activity; protein tyrosine/serine/threonine phosphatase activity; triphosphatase activity; protein tyrosine phosphatase activity Biological Process: transcription from RNA polymerase II promoter; RNA processing; mRNA capping; viral reproduction; gene expression
Research Articles on RNGTT	**1.** These results identify a new domain of CE that is specific to its function in cytoplasmic capping, and a new role for Nck1 in regulating gene expression through its role as the scaffold for assembly of the cytoplasmic capping complex.
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