RAP1B siRNA – Ras-Related Protein Rap-1b Isoform 1 (Human)

PRODUCT OVERVIEW

Product Name	RAP1B, siRNA
Full Product Name	RAP1B siRNA (Human)
Product Gene Name	RAP1B sirna
Product Synonym Names	Ras-related protein Rap-1b; GTP-binding protein smg p21B
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	RAP1B 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	16,033 Da
OMIM	179530
3D Structure	ModBase 3D Structure for P61224
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 RAP1B 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 RAP1B sirna	RNA Interference (RNAi)
Related Product Information for RAP1B sirna	MBS8220044 is an siRNA targeting RAP1B. Also known as RAP1B siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit RAP1B expression using RNA interference
Other Notes	Small volumes of RAP1B 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 RAP1B. It may not necessarily be applicable to this product.

NCBI GI #	58219792
NCBI GeneID	5908
NCBI Accession #	NP_001010942.1
UniProt Primary Accession #	P61224
UniProt Secondary Accession #	P09526; Q502X3; Q5TZR4; Q6DCA1; Q6LES0; B2R5Z2; B4DQI8; B4DW74; B4DW94
UniProt Related Accession #	P61224
GenBank Nucleotide #	NM_001010942.2
NCBI Official Full Name	ras-related protein Rap-1b isoform 1
NCBI Official Synonym Full Names	RAP1B, member of RAS oncogene family
NCBI Official Symbol	RAP1B
NCBI Official Synonym Symbols	K-REV; RAL1B
UniProt Protein Name	Ras-related protein Rap-1b
UniProt Synonym Protein Names	GTP-binding protein smg p21B
Protein Family	Ras-related protein
UniProt Gene Name	RAP1B
UniProt Entry Name	RAP1B_HUMAN
NCBI Protein Information	ras-related protein Rap-1b
NCBI Summary for RAP1B	This gene encodes a member of the RAS-like small GTP-binding protein superfamily. Members of this family regulate multiple cellular processes including cell adhesion and growth and differentiation. This protein localizes to cellular membranes and has been shown to regulate integrin-mediated cell signaling. This protein also plays a role in regulating outside-in signaling in platelets. Alternate splicing results in multiple transcript variants. Pseudogenes of this gene are found on chromosomes 3, 5, 6 and 9. [provided by RefSeq, Oct 2011]
UniProt Comments for RAP1B	RAP1B: GTP-binding protein that possesses intrinsic GTPase activity. Contributes to the polarizing activity of KRIT1 and CDH5 in the establishment and maintenance of correct endothelial cell polarity and vascular lumen. Required for the localization of phosphorylated PRKCZ, PARD3 and TIAM1 to the cell junction. Heterodimer with RAP1GAP. Interacts with EPAC2, SGSM1, SGSM2 and SGSM3. Activated by binding to the GTPase-activating protein RAP1GAP. Activated by guanine nucleotide-exchange factor (GEF) EPAC2 in a cAMP-dependent manner. Belongs to the small GTPase superfamily. Ras family. Protein type: G protein, monomeric, Ras; G protein; G protein, monomeric Chromosomal Location of Human Ortholog: 12q14 Cellular Component: membrane; plasma membrane; lipid particle; intercellular junction; intracellular; cytosol; lipid raft Molecular Function: GTPase activity; protein binding; GDP binding; GTP binding; protein complex binding Biological Process: microvillus biogenesis; platelet activation; cell proliferation; negative regulation of calcium ion-dependent exocytosis; metabolic process; blood coagulation; Rap protein signal transduction
Research Articles on RAP1B	**1.** High concentrations of extracellular adenosine in the tumor microenvironment can chronically activate A2B receptors to suppress Rap1B prenylation and signaling at the cell membrane, resulting in reduced cell-cell contact and promoting cell scattering.
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