RAP1A siRNA – Ras-Related Protein Rap-1a (Human)

PRODUCT OVERVIEW

Product Name	RAP1A, siRNA
Full Product Name	RAP1A siRNA (Human)
Product Gene Name	RAP1A sirna
Product Synonym Names	KREV1; Ras-related protein Rap-1A; C21KG; G-22K; GTP-binding protein smg p21A; Ras-related protein Krev-1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	RAP1A 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	20,987 Da
OMIM	179520
3D Structure	ModBase 3D Structure for P62834
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 RAP1A 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 RAP1A sirna	RNA Interference (RNAi)
Related Product Information for RAP1A sirna	MBS8200545 is an siRNA targeting RAP1A. Also known as RAP1A siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit RAP1A expression using RNA interference
Other Notes	Small volumes of RAP1A 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 RAP1A. It may not necessarily be applicable to this product.

NCBI GI #	58331202
NCBI GeneID	5906
NCBI Accession #	NP_001010935.1
UniProt Primary Accession #	P62834
UniProt Secondary Accession #	P10113
UniProt Related Accession #	P62834
GenBank Nucleotide #	NM_001010935.2
NCBI Official Full Name	ras-related protein Rap-1A
NCBI Official Synonym Full Names	RAP1A, member of RAS oncogene family
NCBI Official Symbol	RAP1A
NCBI Official Synonym Symbols	RAP1; C21KG; G-22K; KREV1; KREV-1; SMGP21
UniProt Protein Name	Ras-related protein Rap-1A
UniProt Synonym Protein Names	C21KG; G-22K; GTP-binding protein smg p21A; Ras-related protein Krev-1
Protein Family	Ras-related protein
UniProt Gene Name	RAP1A
UniProt Synonym Gene Names	KREV1
UniProt Entry Name	RAP1A_HUMAN
NCBI Protein Information	ras-related protein Rap-1A
NCBI Summary for RAP1A	This gene encodes a member of the Ras family of small GTPases. The encoded protein undergoes a change in conformational state and activity, depending on whether it is bound to GTP or GDP. This protein is activated by several types of guanine nucleotide exchange factors (GEFs), and inactivated by two groups of GTPase-activating proteins (GAPs). The activation status of the encoded protein is therefore affected by the balance of intracellular levels of GEFs and GAPs. The encoded protein regulates signaling pathways that affect cell proliferation and adhesion, and may play a role in tumor malignancy. Pseudogenes of this gene have been defined on chromosomes 14 and 17. Alternative splicing results in multiple transcript variants. [provided by RefSeq, May 2014]
UniProt Comments for RAP1A	RAP1A: a small G protein of the Ras family with tumor suppressor activity. Induces morphological reversion of a cell line transformed by a Ras oncogene. Activated by guanine nucleotide-exchange factors (GEF) EPAC and EPAC2 in a cAMP-dependent manner, and GFR. Counteracts the mitogenic function of Ras, at least partly because it can interact with Ras GAPs and RAF in a competitive manner. Interacts with SGSM1, SGSM2 and SGSM3. Protein type: G protein; Motility/polarity/chemotaxis; Tumor suppressor; G protein, monomeric; G protein, monomeric, Ras Chromosomal Location of Human Ortholog: 1p13.3 Cellular Component: neuron projection; perinuclear region of cytoplasm; late endosome; cytoplasm; early endosome; plasma membrane; cell junction; cytosol Molecular Function: GTPase activity; protein binding; Rap guanyl-nucleotide exchange factor activity; Ras GTPase binding; GTP binding; protein complex binding; protein transporter activity Biological Process: microvillus biogenesis; platelet activation; protein transport; activation of MAPKK activity; nerve growth factor receptor signaling pathway; positive regulation of protein kinase activity; energy reserve metabolic process; blood coagulation; signal transduction; regulation of insulin secretion; Rap protein signal transduction
Research Articles on RAP1A	**1.** The direct interaction between Zscan4 and Rap1 may explain how Zscan4 rapidly increases telomere length, yielding important information about the role of these proteins in telomere biology.

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