RASA1 siRNA – Ras Gtpase-Activating Protein 1 Isoform 1 (Human)

PRODUCT OVERVIEW

Product Name	RASA1, siRNA
Full Product Name	RASA1 siRNA (Human)
Product Gene Name	RASA1 sirna
Product Synonym Names	GAP; RASA; Ras GTPase-activating protein 1; GAP; GTPase-activating protein; RasGAP; Ras p21 protein activator; p120GAP
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	RASA1 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	101,546 Da
OMIM	139150
3D Structure	ModBase 3D Structure for P20936
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 RASA1 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 RASA1 sirna	RNA Interference (RNAi)
Related Product Information for RASA1 sirna	MBS8204459 is an siRNA targeting RASA1. Also known as RASA1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit RASA1 expression using RNA interference
Other Notes	Small volumes of RASA1 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 RASA1. It may not necessarily be applicable to this product.

NCBI GI #	4506431
NCBI GeneID	5921
NCBI Accession #	NP_002881.1
UniProt Primary Accession #	P20936
UniProt Secondary Accession #	Q68CU6; Q9UDI1; B2R6W3; B4DTL2
UniProt Related Accession #	P20936
GenBank Nucleotide #	NM_002890.2
NCBI Official Full Name	ras GTPase-activating protein 1 isoform 1
NCBI Official Synonym Full Names	RAS p21 protein activator (GTPase activating protein) 1
NCBI Official Symbol	RASA1
NCBI Official Synonym Symbols	GAP; PKWS; RASA; CMAVM; CM-AVM; RASGAP; p120GAP; p120RASGAP
UniProt Protein Name	Ras GTPase-activating protein 1
UniProt Synonym Protein Names	Ras p21 protein activator; p120GAP
Protein Family	Ras GTPase-activating protein
UniProt Gene Name	RASA1
UniProt Synonym Gene Names	GAP; RASA; GAP; GTPase-activating protein; RasGAP
UniProt Entry Name	RASA1_HUMAN
NCBI Protein Information	ras GTPase-activating protein 1
NCBI Summary for RASA1	The protein encoded by this gene is located in the cytoplasm and is part of the GAP1 family of GTPase-activating proteins. The gene product stimulates the GTPase activity of normal RAS p21 but not its oncogenic counterpart. Acting as a suppressor of RAS function, the protein enhances the weak intrinsic GTPase activity of RAS proteins resulting in the inactive GDP-bound form of RAS, thereby allowing control of cellular proliferation and differentiation. Mutations leading to changes in the binding sites of either protein are associated with basal cell carcinomas. Mutations also have been associated with hereditary capillary malformations (CM) with or without arteriovenous malformations (AVM) and Parkes Weber syndrome. Alternative splicing results in two isoforms where the shorter isoform, lacking the N-terminal hydrophobic region but retaining the same activity, appears to be abundantly expressed in placental but not adult tissues. [provided by RefSeq, May 2012]

UniProt Comments for RASA1	RASA1: a GTPase activator for normal RAS p21 but not its oncogenic counterpart, converting it to the putatively inactive GDP-bound state. Acting as a suppressor of RAS function, it enhances the weak intrinsic GTPase activity of RAS proteins resulting in the inactive GDP-bound form of RAS, thereby allowing control of cellular proliferation and differentiation. Mutations leading to changes in the binding sites of either protein are associated with basal cell carcinomas. Two alternatively spliced isoforms have been described. Protein type: Motility/polarity/chemotaxis; GAPs, Ras; Oncoprotein; GAPs Chromosomal Location of Human Ortholog: 5q13.3 Cellular Component: ruffle; cytoplasm; cytosol Molecular Function: GTPase binding; protein binding; potassium channel inhibitor activity; glycoprotein binding; receptor binding Biological Process: axon guidance; negative regulation of cell adhesion; negative regulation of cell-matrix adhesion; signal transduction; regulation of cell shape; regulation of actin filament polymerization; embryonic development; cytokinesis after mitosis; regulation of RNA metabolic process; ephrin receptor signaling pathway; negative regulation of Ras protein signal transduction; blood vessel morphogenesis; negative regulation of neuron apoptosis; vasculogenesis; vascular endothelial growth factor receptor signaling pathway Disease: Parkes Weber Syndrome; Capillary Malformation-arteriovenous Malformation; Basal Cell Carcinoma, Susceptibility To, 1
Research Articles on RASA1	**1.** The individual contribution of each Akt isoform in p120 RasGAP fragment N-mediated cell protection against Fas ligand induced cell death, was investigated.
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