RPS6KB1 siRNA – Ribosomal Protein S6 Kinase Beta-1 Isoform B (Human)

PRODUCT OVERVIEW

Product Name	RPS6KB1, siRNA
Full Product Name	RPS6KB1 siRNA (Human)
Product Gene Name	RPS6KB1 sirna
Product Synonym Names	STK14A; Ribosomal protein S6 kinase beta-1; S6K-beta-1; S6K1; 70 kDa ribosomal protein S6 kinase 1; P70S6K1; p70-S6K 1; Ribosomal protein S6 kinase I; Serine/threonine-protein kinase 14A; p70 ribosomal S6 kinase alpha; p70 S6 kinase alpha; p70 S6K-alpha; p70 S6KA
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	RPS6KB1 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	51,016 Da
OMIM	608938
3D Structure	ModBase 3D Structure for P23443
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 RPS6KB1 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 RPS6KB1 sirna	RNA Interference (RNAi)
Related Product Information for RPS6KB1 sirna	MBS8210771 is an siRNA targeting RPS6KB1. Also known as RPS6KB1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit RPS6KB1 expression using RNA interference
Other Notes	Small volumes of RPS6KB1 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 RPS6KB1. It may not necessarily be applicable to this product.

NCBI GI #	440546395
NCBI GeneID	6198
NCBI Accession #	NP_001258971.1
UniProt Primary Accession #	P23443
UniProt Secondary Accession #	Q7Z721; B2R779; B4DLT4; B4DTG1; E7ESB8; F6UYM1
UniProt Related Accession #	P23443
GenBank Nucleotide #	NM_001272042.1
NCBI Official Full Name	ribosomal protein S6 kinase beta-1 isoform b
NCBI Official Synonym Full Names	ribosomal protein S6 kinase, 70kDa, polypeptide 1
NCBI Official Symbol	RPS6KB1
NCBI Official Synonym Symbols	S6K; PS6K; S6K1; STK14A; p70-S6K; p70 S6KA; p70-alpha; S6K-beta-1; p70(S6K)-alpha
UniProt Protein Name	Ribosomal protein S6 kinase beta-1
UniProt Synonym Protein Names	70 kDa ribosomal protein S6 kinase 1; P70S6K1; p70-S6K 1; Ribosomal protein S6 kinase I; Serine/threonine-protein kinase 14A; p70 ribosomal S6 kinase alpha; p70 S6 kinase alpha; p70 S6K-alpha; p70 S6KA
Protein Family	Ribosomal protein S6 kinase
UniProt Gene Name	RPS6KB1
UniProt Synonym Gene Names	STK14A; S6K-beta-1; S6K1; P70S6K1; p70-S6K 1; p70 S6 kinase alpha; p70 S6K-alpha; p70 S6KA
UniProt Entry Name	KS6B1_HUMAN
NCBI Protein Information	ribosomal protein S6 kinase beta-1
NCBI Summary for RPS6KB1	This gene encodes a member of the ribosomal S6 kinase family of serine/threonine kinases. The encoded protein responds to mTOR (mammalian target of rapamycin) signaling to promote protein synthesis, cell growth, and cell proliferation. Activity of this gene has been associated with human cancer. Alternatively spliced transcript variants have been observed. The use of alternative translation start sites results in isoforms with longer or shorter N-termini which may differ in their subcellular localizations. There are two pseudogenes for this gene on chromosome 17. [provided by RefSeq, Jan 2013]
UniProt Comments for RPS6KB1	p70S6K: an AGC kinase of the RSK family that is required for cell growth and G1 cell cycle progression. Is phosphorylated and activated by mTOR in mitogenic pathways downstream of phosphoinositide 3 kinase (PI3K). Phosphorylates the S6 protein of the 40S ribosomal subunit and is involved in translational control of 5' oligopyrimidine tract mRNAs. Activity is controlled by multiple phosphorylation events located within the catalytic, linker and pseudosubstrate domains. Mouse knockout shows symptoms of insulin resistance, and increased insulin senstivity, resulting in protection against diet-induced obesity. Protein expression and activation upregulated in colon adenocarcinoma cell lines. Increased expression in breast cancer correlated with poor survival. Selectively amplified and overexpressed within the 17q23 breast cancer amplicon. Two isoforms produced by alternative initiation have been reported. Protein type: Kinase, protein; EC 2.7.11.1; Protein kinase, Ser/Thr (non-receptor); Protein kinase, AGC; Translation; AGC group; RSK family; p70 subfamily Chromosomal Location of Human Ortholog: 17q23.1
Research Articles on RPS6KB1	**1.** Resistance to Selumetinib (AZD6244) in colorectal cancer cell lines is mediated by p70S6K and RPS6 activation.

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