SH2B2 siRNA – SH2B Adapter Protein 2 (Human)

PRODUCT OVERVIEW

Product Name	SH2B2, siRNA
Full Product Name	SH2B2 siRNA (Human)
Product Gene Name	SH2B2 sirna
Product Synonym Names	APS; SH2B adapter protein 2; Adapter protein with pleckstrin homology and Src homology 2 domains; SH2 and PH domain-containing adapter protein APS
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	SH2B2 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	67,738 Da
OMIM	605300
3D Structure	ModBase 3D Structure for O14492
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 SH2B2 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 SH2B2 sirna	RNA Interference (RNAi)
Related Product Information for SH2B2 sirna	MBS827688 is an siRNA targeting SH2B2. Also known as SH2B2 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit SH2B2 expression using RNA interference
Other Notes	Small volumes of SH2B2 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 SH2B2. It may not necessarily be applicable to this product.

NCBI GI #	242247193
NCBI GeneID	10603
NCBI Accession #	NP_066189.3
UniProt Primary Accession #	O14492
UniProt Secondary Accession #	A6ND74
UniProt Related Accession #	O14492
GenBank Nucleotide #	NM_020979.4
NCBI Official Full Name	SH2B adapter protein 2
NCBI Official Synonym Full Names	SH2B adaptor protein 2
NCBI Official Symbol	SH2B2
NCBI Official Synonym Symbols	APS
UniProt Protein Name	SH2B adapter protein 2
UniProt Synonym Protein Names	Adapter protein with pleckstrin homology and Src homology 2 domains; SH2 and PH domain-containing adapter protein APS
Protein Family	SH2B adapter protein
UniProt Gene Name	SH2B2
UniProt Synonym Gene Names	APS
UniProt Entry Name	SH2B2_HUMAN
NCBI Protein Information	SH2B adapter protein 2
NCBI Summary for SH2B2	The protein encoded by this gene is expressed in B lymphocytes and contains pleckstrin homology and src homology 2 (SH2) domains. In Burkitt's lymphoma cell lines, it is tyrosine-phosphorylated in response to B cell receptor stimulation. Because it binds Shc independent of stimulation and Grb2 after stimulation, it appears to play a role in signal transduction from the receptor to the Shc/Grb2 pathway. [provided by RefSeq, Jun 2009]

UniProt Comments for SH2B2	APS: an adapter protein involved in coupling immunoreceptors to Ras signaling. Acts as a negative regulator of cytokine signaling in collaboration with CBL. Binds to EPOR and suppresses EPO-induced STAT5 activation, possibly through a masking effect on STAT5 docking sites in EPOR. Suppresses PDGF-induced mitogenesis. Interacts with several proteins including KIT/c-KIT, SHC, GRB2, EPOR, CBL/c-CBL, PDGFR, VAV1 and VAV3. Interacts with SHC through its N-terminal region, with GRB2 via the phosphorylated C-terminus and with EPOR and KIT via its SH2 domain. Interacts with GRB2 after B-cell antigen receptor stimulation. Interacts with VAV3 via its PH domain, inducing cytoskeletal reorganization. Expressed in spleen, prostrate, testis, uterus, small intestine and skeletal muscle. Among haematopoietic cell lines, expressed exclusively in B-cells. Not expressed in most tumor cell lines. Tyrosine phosphorylated by JAK2, KIT and other kinases activated by B-cell receptor in response to stimulation with cytokines, IL3, IL5, PDGF, IGF1, IGF2, CSF2/GM-CSF and cross-linking of the B-cell receptor complex. Protein type: Adaptor/scaffold Chromosomal Location of Human Ortholog: 7q22 Cellular Component: ruffle; cytoplasm; plasma membrane; stress fiber; actin filament; cytosol Molecular Function: identical protein binding; protein binding; signal transducer activity; SH3/SH2 adaptor activity; JAK pathway signal transduction adaptor activity; transmembrane receptor protein tyrosine kinase adaptor protein activity Biological Process: antigen receptor-mediated signaling pathway; regulation of Ras protein signal transduction; nervous system development; positive regulation of signal transduction; cytokine and chemokine mediated signaling pathway; B-1 B cell homeostasis; signal transduction; regulation of JAK-STAT cascade; insulin receptor signaling pathway; brown fat cell differentiation; regulation of metabolic process; blood coagulation; actin cytoskeleton organization and biogenesis
Research Articles on SH2B2	**1.** Studies indicate that insulin receptor (IR) and IGF Type 1 Receptor (IGFR) have been identified as important partners of Grb10/14 and SH2B1/B2 adaptors.
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