PPP2R2B siRNA – Serine/Threonine-Protein Phosphatase 2a 55 Kda Regulatory Subunit B Beta Isoform Isoform G (Human)

PRODUCT OVERVIEW

Product Name	PPP2R2B, siRNA
Full Product Name	PPP2R2B siRNA (Human)
Product Gene Name	PPP2R2B sirna
Product Synonym Names	Serine/threonine-protein phosphatase 2A 55 kDa regulatory subunit B beta isoform; PP2A subunit B isoform B55-beta; PP2A subunit B isoform PR55-beta; PP2A subunit B isoform R2-beta; PP2A subunit B isoform beta
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	PPP2R2B 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	62,505 Da
OMIM	604325
3D Structure	ModBase 3D Structure for Q00005
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 PPP2R2B 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 PPP2R2B sirna	RNA Interference (RNAi)
Related Product Information for PPP2R2B sirna	MBS8217050 is an siRNA targeting PPP2R2B. Also known as PPP2R2B siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit PPP2R2B expression using RNA interference
Other Notes	Small volumes of PPP2R2B 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 PPP2R2B. It may not necessarily be applicable to this product.

NCBI GI #	430727960
NCBI GeneID	5521
NCBI Accession #	NP_001258828.1
UniProt Primary Accession #	Q00005
UniProt Secondary Accession #	A6NEJ2; A8K102; B3KPD0; B7Z2F2; B7Z304; D3DQF7; D3DQF8; G3V149
UniProt Related Accession #	Q00005
GenBank Nucleotide #	NM_001271899.1
NCBI Official Full Name	serine/threonine-protein phosphatase 2A 55 kDa regulatory subunit B beta isoform isoform g
NCBI Official Synonym Full Names	protein phosphatase 2, regulatory subunit B, beta
NCBI Official Symbol	PPP2R2B
NCBI Official Synonym Symbols	PR52B; SCA12; B55BETA; PR55BETA; PP2ABBETA; PP2APR55B; PR2ABBETA; PR55-BETA; PP2AB55BETA; PR2AB55BETA; PP2APR55BETA; PR2APR55BETA
UniProt Protein Name	Serine/threonine-protein phosphatase 2A 55 kDa regulatory subunit B beta isoform
UniProt Synonym Protein Names	PP2A subunit B isoform B55-beta; PP2A subunit B isoform PR55-beta; PP2A subunit B isoform R2-beta; PP2A subunit B isoform beta
Protein Family	Serine/threonine-protein phosphatase
UniProt Gene Name	PPP2R2B
UniProt Entry Name	2ABB_HUMAN
NCBI Protein Information	serine/threonine-protein phosphatase 2A 55 kDa regulatory subunit B beta isoform
NCBI Summary for PPP2R2B	The product of this gene belongs to the phosphatase 2 regulatory subunit B family. Protein phosphatase 2 is one of the four major Ser/Thr phosphatases, and it is implicated in the negative control of cell growth and division. It consists of a common heteromeric core enzyme, which is composed of a catalytic subunit and a constant regulatory subunit, that associates with a variety of regulatory subunits. The B regulatory subunit might modulate substrate selectivity and catalytic activity. This gene encodes a beta isoform of the regulatory subunit B55 subfamily. Defects in this gene cause autosomal dominant spinocerebellar ataxia 12 (SCA12), a disease caused by degeneration of the cerebellum, sometimes involving the brainstem and spinal cord, and in resulting in poor coordination of speech and body movements. Multiple alternatively spliced variants, which encode different isoforms, have been identified for this gene. The 5' UTR of some of these variants includes a CAG trinucleotide repeat sequence (7-28 copies) that can be expanded to 66-78 copies in cases of SCA12. [provided by RefSeq, Jul 2008]

UniProt Comments for PPP2R2B	PPP2R2B: the B regulatory subunit of PP2A. May modulate substrate selectivity and catalytic activity, and directs the localization of the catalytic enzyme to particular subcellular compartments. PPP2R2B promotes autophagy and oxidative stress induced cell death that is related to apoptosis. The PP2A holoenzyme consists of a common heterodimeric core enzyme composed of a 36 kDa catalytic subunit (subunit C) and a 65 kDa constant regulatory subunit (subunit A), that associates with a variety of regulatory subunits. Three families of regulatory subunits associate with the core dimmer: B (R2/PR55/B55), BÂ¿ (R5/B56), and BÂ¿ (R3/PR72/PR130/PR59). Five isoforms of the human protein are produced by alternative splicing. Isoform 1 (Bbeta1) localizes within the cytoplasm. Isoform 2 (Bbeta2) localizes to both cytosolic and mitochondrial compartments under basal conditions, relocating to the mitochondrial compartment during apoptosis. Its targeting to the outer mitochondrial membrane (OMM) involves an association with import receptors of the TOM complex and is required to promote proapoptotic activity. The N-terminal 26 residues of isoform 2 constitute a cryptic mitochondrial matrix import signal that is necessary and sufficient for targeting the PP2A holoenzyme to the OMM. The last WD repeat of isoform 2 constitutes a mitochondrial stop-transfer domain that prevents PPP2R2B matrix translocation and signal sequence cleavage. Defects in PPP2R2B are the cause of spinocerebellar ataxia type 12 (SCA12). Protein type: Protein phosphatase, regulatory subunit; Motility/polarity/chemotaxis; Apoptosis; Mitochondrial Chromosomal Location of Human Ortholog: 5q32 Cellular Component: mitochondrial outer membrane; protein phosphatase type 2A complex; cytoskeleton; mitochondrion Molecular Function: protein binding; protein phosphatase type 2A regulator activity Biological Process: apoptosis; regulation of catalytic activity; signal transduction Disease: Spinocerebellar Ataxia 12
Research Articles on PPP2R2B	**1.** IER5 functions as a positive feedback regulator of HSF1 and that this process involves PP2A/B55 and HSF1 dephosphorylation.
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