PPM1A siRNA – Protein Phosphatase 1a Isoform 1 (Human)

PRODUCT OVERVIEW

Product Name	PPM1A, siRNA
Full Product Name	PPM1A siRNA (Human)
Product Gene Name	PPM1A sirna
Product Synonym Names	PPPM1A; Protein phosphatase 1A; Protein phosphatase 2C isoform alpha; PP2C-alpha; Protein phosphatase IA
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	PPM1A 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	51,366 Da
OMIM	606108
3D Structure	ModBase 3D Structure for P35813
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 PPM1A 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 PPM1A sirna	RNA Interference (RNAi)
Related Product Information for PPM1A sirna	MBS8229480 is an siRNA targeting PPM1A. Also known as PPM1A siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit PPM1A expression using RNA interference
Other Notes	Small volumes of PPM1A 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 PPM1A. It may not necessarily be applicable to this product.

NCBI GI #	10337595
NCBI GeneID	5494
NCBI Accession #	NP_066283.1
UniProt Primary Accession #	P35813
UniProt Secondary Accession #	O75551; B5BU11; J3KNM0
UniProt Related Accession #	P35813
GenBank Nucleotide #	NM_021003.4
NCBI Official Full Name	protein phosphatase 1A isoform 1
NCBI Official Synonym Full Names	protein phosphatase, Mg2+/Mn2+ dependent, 1A
NCBI Official Symbol	PPM1A
NCBI Official Synonym Symbols	PP2CA; PP2Calpha; PP2C-ALPHA
UniProt Protein Name	Protein phosphatase 1A
UniProt Synonym Protein Names	Protein phosphatase 2C isoform alpha; PP2C-alpha; Protein phosphatase IA
Protein Family	Protein phosphatase
UniProt Gene Name	PPM1A
UniProt Synonym Gene Names	PPPM1A; PP2C-alpha
UniProt Entry Name	PPM1A_HUMAN
NCBI Protein Information	protein phosphatase 1A
NCBI Summary for PPM1A	The protein encoded by this gene is a member of the PP2C family of Ser/Thr protein phosphatases. PP2C family members are known to be negative regulators of cell stress response pathways. This phosphatase dephosphorylates, and negatively regulates the activities of, MAP kinases and MAP kinase kinases. It has been shown to inhibit the activation of p38 and JNK kinase cascades induced by environmental stresses. This phosphatase can also dephosphorylate cyclin-dependent kinases, and thus may be involved in cell cycle control. Overexpression of this phosphatase is reported to activate the expression of the tumor suppressor gene TP53/p53, which leads to G2/M cell cycle arrest and apoptosis. Three alternatively spliced transcript variants encoding distinct isoforms have been described. [provided by RefSeq, Jul 2008]

UniProt Comments for PPM1A	PPPM1A: a Ser/Thr protein phosphatase of the PP2C family. Inhibits the activation of p38 and JNK kinase cascades induced by environmental stresses. Can also dephosphorylate cyclin-dependent kinases and may play a role in cell cycle control. Overexpression of this phosphatase activates the expression of p53, leading to G2/M cell cycle arrest and apoptosis. Protein type: EC 3.1.3.16; Protein phosphatase, Ser/Thr (non-receptor); Motility/polarity/chemotaxis Chromosomal Location of Human Ortholog: 14q23.1 Cellular Component: nucleoplasm; neuron projection; membrane; voltage-gated calcium channel complex; cytosol; nucleus Molecular Function: protein C-terminus binding; signal transducer activity; protein binding; calmodulin-dependent protein phosphatase activity; manganese ion binding; magnesium ion binding; protein serine/threonine phosphatase activity Biological Process: transcription initiation from RNA polymerase II promoter; N-terminal protein myristoylation; Wnt receptor signaling pathway; positive regulation of I-kappaB kinase/NF-kappaB cascade; transcription, DNA-dependent; positive regulation of transcription, DNA-dependent; negative regulation of transcription from RNA polymerase II promoter; negative regulation of NF-kappaB import into nucleus; negative regulation of I-kappaB kinase/NF-kappaB cascade; protein amino acid dephosphorylation; dephosphorylation; transforming growth factor beta receptor signaling pathway; insulin receptor signaling pathway; gene expression; negative regulation of transforming growth factor beta receptor signaling pathway; cell cycle arrest; positive regulation of Wnt receptor signaling pathway
Research Articles on PPM1A	**1.** Loss of PPM1A is associated with the development of tumor invasion in bladder cancer patients.
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