ATP2B1 siRNA – Plasma Membrane Calcium-Transporting Atpase 1 Isoform 1a (Human)

PRODUCT OVERVIEW

Product Name	ATP2B1, siRNA
Full Product Name	ATP2B1 siRNA (Human)
Product Gene Name	ATP2B1 sirna
Product Synonym Names	PMCA1; Plasma membrane calcium-transporting ATPase 1; PMCA1; Plasma membrane calcium ATPase isoform 1; Plasma membrane calcium pump isoform 1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	ATP2B1 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	130,617 Da
OMIM	108731
3D Structure	ModBase 3D Structure for P20020
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 ATP2B1 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 ATP2B1 sirna	RNA Interference (RNAi)
Related Product Information for ATP2B1 sirna	MBS8240130 is an siRNA targeting ATP2B1. Also known as ATP2B1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit ATP2B1 expression using RNA interference
Other Notes	Small volumes of ATP2B1 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 ATP2B1. It may not necessarily be applicable to this product.

NCBI GI #	48255947
NCBI GeneID	490
NCBI Accession #	NP_001001323.1
UniProt Primary Accession #	P20020
UniProt Secondary Accession #	Q12992; Q12993; Q13819; Q13820; Q13821; Q16504; Q93082
UniProt Related Accession #	P20020
GenBank Nucleotide #	NM_001001323.1
NCBI Official Full Name	plasma membrane calcium-transporting ATPase 1 isoform 1a
NCBI Official Synonym Full Names	ATPase, Ca++ transporting, plasma membrane 1
NCBI Official Symbol	ATP2B1
NCBI Official Synonym Symbols	PMCA1; PMCA1kb
UniProt Protein Name	Plasma membrane calcium-transporting ATPase 1
UniProt Synonym Protein Names	Plasma membrane calcium ATPase isoform 1; Plasma membrane calcium pump isoform 1
Protein Family	Plasma membrane calcium-transporting ATPase
UniProt Gene Name	ATP2B1
UniProt Synonym Gene Names	PMCA1; PMCA1
UniProt Entry Name	AT2B1_HUMAN
NCBI Protein Information	plasma membrane calcium-transporting ATPase 1
NCBI Summary for ATP2B1	The protein encoded by this gene belongs to the family of P-type primary ion transport ATPases characterized by the formation of an aspartyl phosphate intermediate during the reaction cycle. These enzymes remove bivalent calcium ions from eukaryotic cells against very large concentration gradients and play a critical role in intracellular calcium homeostasis. The mammalian plasma membrane calcium ATPase isoforms are encoded by at least four separate genes and the diversity of these enzymes is further increased by alternative splicing of transcripts. The expression of different isoforms and splice variants is regulated in a developmental, tissue- and cell type-specific manner, suggesting that these pumps are functionally adapted to the physiological needs of particular cells and tissues. This gene encodes the plasma membrane calcium ATPase isoform 1. Alternatively spliced transcript variants encoding different isoforms have been identified. [provided by RefSeq, Jul 2008]
UniProt Comments for ATP2B1	PMCA1: This magnesium-dependent enzyme catalyzes the hydrolysis of ATP coupled with the transport of calcium out of the cell. Belongs to the cation transport ATPase (P-type) (TC 3.A.3) family. Type IIB subfamily. 6 isoforms of the human protein are produced by alternative splicing. Protein type: Transporter; EC 3.6.3.8; Hydrolase; Membrane protein, integral; Transporter, ion channel; Membrane protein, multi-pass Chromosomal Location of Human Ortholog: 12q21.3 Cellular Component: membrane; integral to plasma membrane; plasma membrane; nucleus Molecular Function: calmodulin binding; protein binding; calcium-transporting ATPase activity; metal ion binding; ATP binding Biological Process: metabolic process; transport; blood coagulation; transmembrane transport
Research Articles on ATP2B1	**1.** Report that ATP2B1 rs2681472 is associated with early-onset preeclampsia in Northern Han Chinese women.

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