FDPS siRNA – Farnesyl Pyrophosphate Synthase Isoform a (Human)

PRODUCT OVERVIEW

Product Name	FDPS, siRNA
Full Product Name	FDPS siRNA (Human)
Product Gene Name	FDPS sirna
Product Synonym Names	FPS; KIAA1293; Farnesyl pyrophosphate synthase; FPP synthase; FPS; 2E.6E)-farnesyl diphosphate synthase; Dimethylallyltranstransferase; Farnesyl diphosphate synthase; Geranyltranstransferase
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	FDPS 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	40,532 Da
OMIM	134629
3D Structure	ModBase 3D Structure for P14324
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 FDPS 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 FDPS sirna	RNA Interference (RNAi)
Related Product Information for FDPS sirna	MBS8238912 is an siRNA targeting FDPS. Also known as FDPS siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit FDPS expression using RNA interference
Other Notes	Small volumes of FDPS 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 FDPS. It may not necessarily be applicable to this product.

NCBI GI #	209571582
NCBI GeneID	2224
NCBI Accession #	NP_001129293.1
UniProt Primary Accession #	P14324
UniProt Secondary Accession #	Q96G29; D3DV91; E9PCI9
UniProt Related Accession #	P14324
GenBank Nucleotide #	NM_001135821.1
NCBI Official Full Name	farnesyl pyrophosphate synthase isoform a
NCBI Official Synonym Full Names	farnesyl diphosphate synthase
NCBI Official Symbol	FDPS
NCBI Official Synonym Symbols	FPS; FPPS
UniProt Protein Name	Farnesyl pyrophosphate synthase
UniProt Synonym Protein Names	(2E,6E)-farnesyl diphosphate synthase; Dimethylallyltranstransferase (EC:2.5.1.1); Farnesyl diphosphate synthase; Geranyltranstransferase
Protein Family	Farnesyl pyrophosphate synthase
UniProt Gene Name	FDPS
UniProt Synonym Gene Names	FPS; KIAA1293; FPP synthase; FPS
UniProt Entry Name	FPPS_HUMAN
NCBI Protein Information	farnesyl pyrophosphate synthase
NCBI Summary for FDPS	This gene encodes an enzyme that catalyzes the production of geranyl pyrophosphate and farnesyl pyrophosphate from isopentenyl pyrophosphate and dimethylallyl pyrophosphate. The resulting product, farnesyl pyrophosphate, is a key intermediate in cholesterol and sterol biosynthesis, a substrate for protein farnesylation and geranylgeranylation, and a ligand or agonist for certain hormone receptors and growth receptors. Drugs that inhibit this enzyme prevent the post-translational modifications of small GTPases and have been used to treat diseases related to bone resorption. Multiple pseudogenes have been found on chromosomes 1, 7, 14, 15, 21 and X. Multiple transcript variants encoding different isoforms have been found for this gene.[provided by RefSeq, Oct 2008]
UniProt Comments for FDPS	FDPS: Key enzyme in isoprenoid biosynthesis which catalyzes the formation of farnesyl diphosphate (FPP), a precursor for several classes of essential metabolites including sterols, dolichols, carotenoids, and ubiquinones. FPP also serves as substrate for protein farnesylation and geranylgeranylation. Catalyzes the sequential condensation of isopentenyl pyrophosphate with the allylic pyrophosphates, dimethylallyl pyrophosphate, and then with the resultant geranylpyrophosphate to the ultimate product farnesyl pyrophosphate. Belongs to the FPP/GGPP synthase family. Protein type: Motility/polarity/chemotaxis; EC 2.5.1.10; Secondary Metabolites Metabolism - terpenoid backbone biosynthesis; EC 2.5.1.1; Transferase Chromosomal Location of Human Ortholog: 1q22 Cellular Component: nucleoplasm; mitochondrion; cytoplasm; cytosol Molecular Function: geranyltranstransferase activity; dimethylallyltranstransferase activity; metal ion binding Biological Process: viral reproduction; geranyl diphosphate biosynthetic process; farnesyl diphosphate biosynthetic process; cholesterol biosynthetic process
Research Articles on FDPS	**1.** our study indicated that DR patients have higher VEGF levels than diabetic patients without retinopathy, and -2578A/C (rs699947) and +405C/G (rs2010963) may be important factors in determining serum VEGF levels.

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