PPARD siRNA – Peroxisome Proliferator-Activated Receptor Delta Isoform 1 (Human)

PRODUCT OVERVIEW

Product Name	PPARD, siRNA
Full Product Name	PPARD siRNA (Human)
Product Gene Name	PPARD sirna
Product Synonym Names	NR1C2; PPARB; Peroxisome proliferator-activated receptor delta; PPAR-delta; NUCI; Nuclear hormone receptor 1; NUC1; Nuclear receptor subfamily 1 group C member 2; Peroxisome proliferator-activated receptor beta; PPAR-beta
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	PPARD 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	38,855 Da
OMIM	600409
3D Structure	ModBase 3D Structure for Q03181
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 PPARD 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 PPARD sirna	RNA Interference (RNAi)
Related Product Information for PPARD sirna	MBS8235140 is an siRNA targeting PPARD. Also known as PPARD siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit PPARD expression using RNA interference
Other Notes	Small volumes of PPARD 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 PPARD. It may not necessarily be applicable to this product.

NCBI GI #	284807155
NCBI GeneID	5467
NCBI Accession #	NP_001165289.1
UniProt Primary Accession #	Q03181
UniProt Secondary Accession #	Q5D1P0; Q7Z5K0; Q9BUD4; A8K6J6; B4E3V3; B6ZGS1; B7Z3W1; E9PE18
UniProt Related Accession #	Q03181
GenBank Nucleotide #	NM_001171818.1
NCBI Official Full Name	peroxisome proliferator-activated receptor delta isoform 1
NCBI Official Synonym Full Names	peroxisome proliferator-activated receptor delta
NCBI Official Symbol	PPARD
NCBI Official Synonym Symbols	FAAR; NUC1; NUCI; NR1C2; NUCII; PPARB
UniProt Protein Name	Peroxisome proliferator-activated receptor delta
UniProt Synonym Protein Names	NUCI; Nuclear hormone receptor 1; NUC1; Nuclear receptor subfamily 1 group C member 2; Peroxisome proliferator-activated receptor beta; PPAR-beta
Protein Family	Peroxisome proliferator-activated receptor
UniProt Gene Name	PPARD
UniProt Synonym Gene Names	NR1C2; PPARB; PPAR-delta; NUC1; PPAR-beta
UniProt Entry Name	PPARD_HUMAN
NCBI Protein Information	peroxisome proliferator-activated receptor delta
NCBI Summary for PPARD	This gene encodes a member of the peroxisome proliferator-activated receptor (PPAR) family. PPARs are nuclear hormone receptors that bind peroxisome proliferators and control the size and number of peroxisomes produced by cells. PPARs mediate a variety of biological processes, and may be involved in the development of several chronic diseases, including diabetes, obesity, atherosclerosis, and cancer. This protein is a potent inhibitor of ligand-induced transcription activity of PPAR alpha and PPAR gamma. It may function as an integrator of transcription repression and nuclear receptor signaling. The expression of this gene is found to be elevated in colorectal cancer cells. The elevated expression can be repressed by adenomatosis polyposis coli (APC), a tumor suppressor protein related to APC/beta-catenin signaling pathway. Knockout studies in mice suggested the role of this protein in myelination of the corpus callosum, lipid metabolism, and epidermal cell proliferation. Alternate splicing results in multiple transcript variants. [provided by RefSeq, Jan 2010]

UniProt Comments for PPARD	PPAR-delta: Ligand-activated transcription factor. Receptor that binds peroxisome proliferators such as hypolipidemic drugs and fatty acids. Has a preference for poly-unsaturated fatty acids, such as gamma-linoleic acid and eicosapentanoic acid. Once activated by a ligand, the receptor binds to promoter elements of target genes. Regulates the peroxisomal beta-oxidation pathway of fatty acids. Functions as transcription activator for the acyl-CoA oxidase gene. Decreases expression of NPC1L1 once activated by a ligand. Belongs to the nuclear hormone receptor family. NR1 subfamily. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Nuclear receptor; DNA-binding Chromosomal Location of Human Ortholog: 6p21.2 Cellular Component: nucleoplasm; nucleus Molecular Function: NF-kappaB binding; ligand-dependent nuclear receptor activity; protein binding; DNA binding; zinc ion binding; sequence-specific DNA binding; transcription coactivator activity; steroid hormone receptor activity; drug binding; lipid binding; transcription factor activity Biological Process: proteoglycan metabolic process; wound healing; negative regulation of smooth muscle cell proliferation; heart development; positive regulation of transcription, DNA-dependent; negative regulation of collagen biosynthetic process; positive regulation of epidermis development; negative regulation of smooth muscle cell migration; glucose transport; negative regulation of transcription from RNA polymerase II promoter; decidualization; positive regulation of vasodilation; vitamin A metabolic process; response to vitamin A; positive regulation of cell proliferation; response to glucose stimulus; axon ensheathment; cell differentiation; negative regulation of epithelial cell proliferation; cholesterol metabolic process; transcription initiation from RNA polymerase II promoter; generation of precursor metabolites and energy; intracellular receptor-mediated signaling pathway; glucose metabolic process; positive regulation of insulin secretion; keratinocyte proliferation; fatty acid catabolic process; cell-substrate adhesion; keratinocyte migration; phospholipid biosynthetic process; positive regulation of phosphoinositide 3-kinase cascade; regulation of transcription from RNA polymerase II promoter; cell proliferation; fatty acid beta-oxidation; negative regulation of inflammatory response; mRNA transcription; positive regulation of fat cell differentiation; gene expression; steroid hormone mediated signaling; response to activity; negative regulation of cell growth; lipid metabolic process; negative regulation of transcription, DNA-dependent; fatty acid transport; embryo implantation; negative regulation of apoptosis
Research Articles on PPARD	**1.** Several lipid-related gene polymorphisms interact with overweight/obesity to modulate blood pressure levels.
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