RARG siRNA – Retinoic Acid Receptor Gamma Isoform 1 (Human)

PRODUCT OVERVIEW

Product Name	RARG, siRNA
Full Product Name	RARG siRNA (Human)
Product Gene Name	RARG sirna
Product Synonym Names	NR1B3; Retinoic acid receptor gamma; RAR-gamma; Nuclear receptor subfamily 1 group B member 3
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	RARG 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	47,931 Da
OMIM	180190
3D Structure	ModBase 3D Structure for P13631
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 RARG 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 RARG sirna	RNA Interference (RNAi)
Related Product Information for RARG sirna	MBS8201576 is an siRNA targeting RARG. Also known as RARG siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit RARG expression using RNA interference
Other Notes	Small volumes of RARG 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 RARG. It may not necessarily be applicable to this product.

NCBI GI #	4506423
NCBI GeneID	5916
NCBI Accession #	NP_000957.1
UniProt Primary Accession #	P13631
UniProt Secondary Accession #	P22932; Q15281; Q52LZ8; Q9BYX8; Q9H1I3; Q9UJ38; B7Z492; B7Z4F1; B7ZAE4; J3KNP6
UniProt Related Accession #	P13631
GenBank Nucleotide #	NM_000966.5
NCBI Official Full Name	retinoic acid receptor gamma isoform 1
NCBI Official Synonym Full Names	retinoic acid receptor, gamma
NCBI Official Symbol	RARG
NCBI Official Synonym Symbols	RARC; NR1B3
UniProt Protein Name	Retinoic acid receptor gamma
UniProt Synonym Protein Names	Nuclear receptor subfamily 1 group B member 3
Protein Family	Retinoic acid receptor
UniProt Gene Name	RARG
UniProt Synonym Gene Names	NR1B3; RAR-gamma
UniProt Entry Name	RARG_HUMAN
NCBI Protein Information	retinoic acid receptor gamma
NCBI Summary for RARG	This gene encodes a retinoic acid receptor that belongs to the nuclear hormone receptor family. Retinoic acid receptors (RARs) act as ligand-dependent transcriptional regulators. When bound to ligands, RARs activate transcription by binding as heterodimers to the retinoic acid response elements (RARE) found in the promoter regions of the target genes. In their unbound form, RARs repress transcription of their target genes. RARs are involved in various biological processes, including limb bud development, skeletal growth, and matrix homeostasis. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Aug 2011]

UniProt Comments for RARG	RARG: Receptor for retinoic acid. Retinoic acid receptors bind as heterodimers to their target response elements in response to their ligands, all-trans or 9-cis retinoic acid, and regulate gene expression in various biological processes. The RAR/RXR heterodimers bind to the retinoic acid response elements (RARE) composed of tandem 5'-AGGTCA-3' sites known as DR1-DR5. In the absence of ligand, acts mainly as an activator of gene expression due to weak binding to corepressors. Required for limb bud development. In concert with RARA or RARB, required for skeletal growth, matrix homeostasis and growth plate function. Homodimer. Heterodimer with a RXR molecule. Binds DNA preferentially as a RAR/RXR heterodimer. Forms a complex with PUS1 and the SRA1 RNA in the nucleus. Belongs to the nuclear hormone receptor family. NR1 subfamily. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Nuclear receptor; DNA-binding Chromosomal Location of Human Ortholog: 12q13 Cellular Component: nucleoplasm; transcription factor complex; nuclear chromatin; integral to membrane; nucleus Molecular Function: retinoid X receptor binding; protein binding; DNA binding; zinc ion binding; steroid hormone receptor activity; retinoic acid receptor activity; transcription factor activity Biological Process: retinoic acid receptor signaling pathway; transcription initiation from RNA polymerase II promoter; response to retinoic acid; regulation of myelination; glandular epithelial cell development; positive regulation of apoptosis; embryonic eye morphogenesis; multicellular organism growth; negative regulation of chondrocyte differentiation; Wnt receptor signaling pathway through beta-catenin; negative regulation of transcription from RNA polymerase II promoter; embryonic hindlimb morphogenesis; embryonic camera-type eye development; anterior/posterior pattern formation; negative regulation of cell proliferation; positive regulation of programmed cell death; positive regulation of cell proliferation; neural tube closure; gene expression; positive regulation of transcription from RNA polymerase II promoter; steroid hormone mediated signaling; transmembrane transport; regulation of cell size; negative regulation of apoptosis
Research Articles on RARG	**1.** deregulation of the retinoid/rexinoid signaling pathway has a major role and may represent a potential therapeutic target for NUP98-RARG-mediated transformation
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