ADI1 siRNA – 1,2-Dihydroxy-3-Keto-5-Methylthiopentene Dioxygenase Isoform 2 (Human)

PRODUCT OVERVIEW

Product Name	ADI1, siRNA
Full Product Name	ADI1 siRNA (Human)
Product Gene Name	ADI1 sirna
Product Synonym Names	MTCBP1; 1.2-dihydroxy-3-keto-5-methylthiopentene dioxygenase; Acireductone dioxygenase; Fe(2+)-requiring); ARD; Fe-ARD; Membrane-type 1 matrix metalloproteinase cytoplasmic tail-binding protein 1; MTCBP-1; Submergence-induced protein-like factor; Sip-L
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	ADI1 siRNA (Human) is a target-specific 19-23 nt siRNA oligo duplexes designed to knock down gene expression.
Preparation and Storage	Store at -20 degree C for one year.
OMIM	613400
3D Structure	ModBase 3D Structure for Q9BV57
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 10 nM - 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 example, resuspend one tube of 5 nmol siRNA oligo in 250 ul of DEPC water to get a final concentration of 20 uM.(See Image Below)
Components	We offer pre-designed sets of 3 different target-specific siRNA oligo duplexes of human ADI1 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. (See Image Below)
Applications Tested/Suitable for ADI1 sirna	RNA Interference (RNAi)
Related Product Information for ADI1 sirna	MBS8206374 is an siRNA targeting ADI1. Also known as ADI1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit ADI1 expression using RNA interference
Other Notes	Small volumes of ADI1 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.

Component	15 nmol	30 nmol
ADI1 siRNA (Human) - A	5 nmol x 1	5 nmol x 2
ADI1 siRNA (Human) - B	5 nmol x 1	5 nmol x 2
ADI1 siRNA (Human) - C	5 nmol x 1	5 nmol x 2
Negative Control	2.5 nmol x 1	2.5 nmol x 2
DEPC Water	1 ml x 1	1 ml x 2

Components of ADI1 sirna

Plate	Final volume of medium	Final concentration of siRNA	siRNA (20 µM)	Lipofectamin 2000
96-well	100 µl	100 nM	0.5 µl	0.25 µl
		50 nM	0.25 µl	0.25 µl
		10 nM	0.05 µl	0.25 µl
24-well	500 µl	100 nM	2.5 µl	1 µl
		50 nM	1.25 µl	1 µl
		10 nM	0.25 µl	1 µl
12-well	1 ml	100 nM	5 µl	2 µl
		50 nM	2.5 µl	2 µl
		10 nM	0.5 µl	2 µl
6-well	2 ml	100 nM	10 µl	5 µl
		50 nM	5 µl	5 µl

Directions of Use of ADI1 sirna

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ADI1. It may not necessarily be applicable to this product.

NCBI GI #	807045907
NCBI GeneID	55256
NCBI Accession #	NP_001293006.1
UniProt Primary Accession #	Q9BV57
UniProt Secondary Accession #	Q53HW3; Q53QD3; Q57YV7; Q68CK2; Q6ZSF7; Q7Z512; Q96P85; Q9NV57; D6W4Y3
UniProt Related Accession #	Q9BV57
GenBank Nucleotide #	NM_001306077.1
NCBI Official Full Name	1,2-dihydroxy-3-keto-5-methylthiopentene dioxygenase isoform 2
NCBI Official Synonym Full Names	acireductone dioxygenase 1
NCBI Official Symbol	ADI1
NCBI Official Synonym Symbols	ARD; APL1; SIPL; mtnD; Fe-ARD; MTCBP1; Ni-ARD; HMFT1638
UniProt Protein Name	1,2-dihydroxy-3-keto-5-methylthiopentene dioxygenase
UniProt Synonym Protein Names	Acireductone dioxygenase (Fe(2+)-requiring)
Protein Family	1,2-dihydroxy-3-keto-5-methylthiopentene dioxygenase
UniProt Gene Name	ADI1
UniProt Synonym Gene Names	ARD; Fe-ARD; MTCBP-1; Sip-L
UniProt Entry Name	MTND_HUMAN
NCBI Protein Information	1,2-dihydroxy-3-keto-5-methylthiopentene dioxygenase
NCBI Summary for ADI1	This gene encodes an enzyme that belongs to the aci-reductone dioxygenase family of metal-binding enzymes, which are involved in methionine salvage. This enzyme may regulate mRNA processing in the nucleus, and may carry out different functions depending on its localization. Related pseudogenes have been defined on chromosomes 8 and 20. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Apr 2015]

UniProt Comments for ADI1	ADI1: Catalyzes the formation of formate and 2-keto-4- methylthiobutyrate (KMTB) from 1,2-dihydroxy-3-keto-5-methylthiopentene (DHK-MTPene). Also down-regulates cell migration mediated by MMP14. Necessary for hepatitis C virus replication in an otherwise non-permissive cell line. Belongs to the acireductone dioxygenase (ARD) family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: EC 1.13.11.54; Oxidoreductase; Amino Acid Metabolism - cysteine and methionine Chromosomal Location of Human Ortholog: 2p25.3 Cellular Component: nucleoplasm; Golgi apparatus; cytoplasm; plasma membrane; nucleus; cytosol Molecular Function: acireductone dioxygenase [iron(II)-requiring] activity; protein binding; iron ion binding; oxidoreductase activity Biological Process: methionine salvage; sulfur amino acid metabolic process; polyamine metabolic process
Research Articles on ADI1	**1.** Clinical trial of gene-disease association and gene-environment interaction. (HuGE Navigator)
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