UCP1 siRNA – Mitochondrial Brown Fat Uncoupling Protein 1 (Mouse)

PRODUCT OVERVIEW

Product Name	UCP1, siRNA
Full Product Name	UCP1 siRNA (Mouse)
Product Gene Name	UCP1 sirna
Product Synonym Names	SLC25A7; UCP; Mitochondrial brown fat uncoupling protein 1; UCP 1; Solute carrier family 25 member 7; Thermogenin
Host	Synthetic
Species Reactivity	Mouse
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	UCP1 siRNA (Mouse) 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	33,248 Da
3D Structure	ModBase 3D Structure for P12242
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 mouse UCP1 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 UCP1 sirna	RNA Interference (RNAi)
Related Product Information for UCP1 sirna	MBS8223984 is an siRNA targeting UCP1. Also known as UCP1 siRNA (Mouse). Reactive in Mouse. Host: Synthetic. siRNA to inhibit UCP1 expression using RNA interference
Other Notes	Small volumes of UCP1 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 UCP1. It may not necessarily be applicable to this product.

NCBI GI #	6678497

NCBI GeneID	22227
NCBI Accession #	NP_033489.1
UniProt Primary Accession #	P12242
UniProt Related Accession #	P12242
GenBank Nucleotide #	NM_009463.3
NCBI Official Full Name	mitochondrial brown fat uncoupling protein 1
NCBI Official Synonym Full Names	uncoupling protein 1 (mitochondrial, proton carrier)
NCBI Official Symbol	Ucp1
NCBI Official Synonym Symbols	Ucp; Slc25a7; AI385626
UniProt Protein Name	Mitochondrial brown fat uncoupling protein 1
UniProt Synonym Protein Names	Solute carrier family 25 member 7; Thermogenin
Protein Family	Mitochondrial brown fat uncoupling protein
UniProt Gene Name	Ucp1
UniProt Synonym Gene Names	Slc25a7; Ucp; UCP 1
UniProt Entry Name	UCP1_MOUSE
NCBI Protein Information	mitochondrial brown fat uncoupling protein 1
UniProt Comments for UCP1	UCP1: UCP are mitochondrial transporter proteins that create proton leaks across the inner mitochondrial membrane, thus uncoupling oxidative phosphorylation from ATP synthesis. As a result, energy is dissipated in the form of heat. Belongs to the mitochondrial carrier family. Protein type: Mitochondrial; Membrane protein, multi-pass; Membrane protein, integral Cellular Component: mitochondrial envelope; membrane; mitochondrion; mitochondrial inner membrane; mitochondrial membrane; integral to membrane Molecular Function: protein binding; oxidative phosphorylation uncoupler activity Biological Process: regulation of transcription from RNA polymerase II promoter; proton transport; transport; transmembrane transport; mitochondrial transport
Research Articles on UCP1	**1.** UCP1 and SLN are required to maintain optimal thermogenesis and loss of both systems compromises survival of mice under cold stress
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