SMARCAL1 siRNA – SWI/SNF-Related Matrix-Associated Actin-Dependent Regulator of Chromatin Subfamily A-Like Protein 1 (Rat)

PRODUCT OVERVIEW

Product Name	SMARCAL1, siRNA
Full Product Name	SMARCAL1 siRNA (Rat)
Product Gene Name	SMARCAL1 sirna
Product Synonym Names	HARP; SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A-like protein 1; HepA-related protein; Sucrose nonfermenting protein 2-like 1
Host	Synthetic
Species Reactivity	Rat
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	SMARCAL1 siRNA (Rat) 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	101,212 Da
3D Structure	ModBase 3D Structure for B4F769
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 rat SMARCAL1 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 SMARCAL1 sirna	RNA Interference (RNAi)
Related Product Information for SMARCAL1 sirna	MBS8235424 is an siRNA targeting SMARCAL1. Also known as SMARCAL1 siRNA (Rat). Reactive in Rat. Host: Synthetic. siRNA to inhibit SMARCAL1 expression using RNA interference
Other Notes	Small volumes of SMARCAL1 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 SMARCAL1. It may not necessarily be applicable to this product.

NCBI GI #	157817600
NCBI GeneID	316477
NCBI Accession #	NP_001101692.1
UniProt Primary Accession #	B4F769
UniProt Related Accession #	B4F769
GenBank Nucleotide #	NM_001108222.1
NCBI Official Full Name	SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A-like protein 1
NCBI Official Synonym Full Names	Swi/SNF related matrix associated, actin dependent regulator of chromatin, subfamily a-like 1
NCBI Official Symbol	Smarcal1
UniProt Protein Name	SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A-like protein 1
UniProt Synonym Protein Names	HepA-related protein; Sucrose nonfermenting protein 2-like 1
UniProt Gene Name	Smarcal1
UniProt Synonym Gene Names	Harp
UniProt Entry Name	SMAL1_RAT
NCBI Protein Information	SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A-like protein 1
UniProt Comments for SMARCAL1	SMARCAL1: ATP-dependent annealing helicase that catalyzes the rewinding of the stably unwound DNA. Rewinds single-stranded DNA bubbles that are stably bound by replication protein A (RPA). Acts throughout the genome to reanneal stably unwound DNA, performing the opposite reaction of many enzymes, such as helicases and polymerases, that unwind DNA. Defects in SMARCAL1 are a cause of Schimke immuno-osseous dysplasia (SIOD). SIOD causes spondyloepiphyseal dysplasia, renal dysfunction and T-cell immunodeficiency. Approximately half of all patients also exhibit hyperthyroidism, while around half also exhibit episodal cerebral ischema. Belongs to the SNF2/RAD54 helicase family. SMARCAL1 subfamily. Protein type: Helicase; EC 3.6.1.-; EC 3.6.4.- Cellular Component: nucleoplasm; DNA replication factor A complex; nucleus Molecular Function: DNA-dependent ATPase activity; DNA binding; helicase activity; ATP binding Biological Process: regulation of transcription from RNA polymerase II promoter; DNA strand renaturation; chromatin modification; DNA repair; response to DNA damage stimulus; DNA metabolic process; replication fork processing
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