PRDM14 siRNA – Pr Domain Zinc Finger Protein 14 (Human)

PRODUCT OVERVIEW

Product Name	PRDM14, siRNA
Full Product Name	PRDM14 siRNA (Human)
Product Gene Name	PRDM14 sirna
Product Synonym Names	PR domain zinc finger protein 14; PR domain-containing protein 14
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	PRDM14 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	64,062 Da
OMIM	611781
3D Structure	ModBase 3D Structure for Q9GZV8
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 PRDM14 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 PRDM14 sirna	RNA Interference (RNAi)
Related Product Information for PRDM14 sirna	MBS8233410 is an siRNA targeting PRDM14. Also known as PRDM14 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit PRDM14 expression using RNA interference
Other Notes	Small volumes of PRDM14 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 PRDM14. It may not necessarily be applicable to this product.

NCBI GI #	13375636
NCBI GeneID	63978
NCBI Accession #	NP_078780.1
UniProt Primary Accession #	Q9GZV8
UniProt Secondary Accession #	Q86UX9
UniProt Related Accession #	Q9GZV8
GenBank Nucleotide #	NM_024504.3
NCBI Official Full Name	PR domain zinc finger protein 14
NCBI Official Synonym Full Names	PR domain containing 14
NCBI Official Symbol	PRDM14
NCBI Official Synonym Symbols	PFM11
UniProt Protein Name	PR domain zinc finger protein 14
UniProt Synonym Protein Names	PR domain-containing protein 14
Protein Family	PR domain zinc finger protein
UniProt Gene Name	PRDM14
UniProt Entry Name	PRD14_HUMAN
NCBI Protein Information	PR domain zinc finger protein 14
NCBI Summary for PRDM14	This gene encodes a member of the PRDI-BF1 and RIZ homology domain containing (PRDM) family of transcriptional regulators. The encoded protein may possess histone methyltransferase activity and plays a critical role in cell pluripotency by suppressing the expression of differentiation marker genes. Expression of this gene may play a role in breast cancer. [provided by RefSeq, Dec 2011]
UniProt Comments for PRDM14	PRDM14: a probable protein lysine methyltransferase that works in concert with the core human embryonic stem cell (ESC) regulators to control pluripotency associated genes. Binds to silenced genes in human ESCs. Its binding profile is enriched for the repressive tri-methylation of histone H3 lysine 27 (H3K27me3) modification. Interacts directly with the polycomb repressive complex 2 (PRC2). PRC2 is detected at PRDM14-bound loci in human ESCs. A probable transcriptional regulator of the krueppel C2H2-type zinc-finger protein family. Has both positive and negative roles on transcription. Required for the maintenance of emryonic stem cell identity and the reacquisition of pluripotency in somatic cells. May play an essential role in germ cell development at 2 levels: the reacquisition of potential pluripotency, including SOX2 up-regulation, and successful epigenetic reprogramming. Directly up-regulates the expression of pluripotency gene POU5F1 through its proximal enhancer. Binds to the DNA consensus sequence 5'-GGTC[TC]CTAA-3'. Protein type: C2H2-type zinc finger protein; Methyltransferase, protein arginine, predicted Chromosomal Location of Human Ortholog: 8q13.3 Cellular Component: nucleoplasm Molecular Function: methyltransferase activity; protein binding; DNA binding; metal ion binding Biological Process: fertilization; transcription, DNA-dependent; regulation of transcription, DNA-dependent; homeostasis of number of cells within a tissue; somatic stem cell maintenance; negative regulation of fibroblast growth factor receptor signaling pathway; inner cell mass cell fate commitment; cell morphogenesis; germ-line stem cell maintenance; cell fate specification; regulation of gene expression, epigenetic; germ cell development
Research Articles on PRDM14	**1.** In response to cytokines, pluripotent stem cells differentiate first into a heterogeneous mesoderm-like cell population and then into Primordial Germ cell-Like Cells, which exhibit minimal PRDM14 expression.

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