KMT2E siRNA – Histone-Lysine N-Methyltransferase 2e (Human)

PRODUCT OVERVIEW

Product Name	KMT2E, siRNA
Full Product Name	KMT2E siRNA (Human)
Product Gene Name	KMT2E sirna
Product Synonym Names	MLL5; Histone-lysine N-methyltransferase 2E; Lysine N-methyltransferase 2E; Myeloid/lymphoid or mixed-lineage leukemia protein 5
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	KMT2E 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	131,737 Da
OMIM	608444
3D Structure	ModBase 3D Structure for Q8IZD2
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 KMT2E 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 KMT2E sirna	RNA Interference (RNAi)
Related Product Information for KMT2E sirna	MBS8240590 is an siRNA targeting KMT2E. Also known as KMT2E siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit KMT2E expression using RNA interference
Other Notes	Small volumes of KMT2E 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 KMT2E. It may not necessarily be applicable to this product.

NCBI GI #	91199543
NCBI GeneID	55904
NCBI Accession #	NP_061152.3
UniProt Primary Accession #	Q8IZD2
UniProt Secondary Accession #	Q6P5Y2; Q6PKG4; Q6T316; Q86TI3; Q86W12; Q86WG0; Q86WL2; Q8IV78; B6ZDE4; B6ZDM3; M4K8J3
UniProt Related Accession #	Q8IZD2
GenBank Nucleotide #	NM_018682.3
NCBI Official Full Name	histone-lysine N-methyltransferase 2E
NCBI Official Synonym Full Names	lysine (K)-specific methyltransferase 2E
NCBI Official Symbol	KMT2E
NCBI Official Synonym Symbols	MLL5; NKp44L; HDCMC04P
UniProt Protein Name	Histone-lysine N-methyltransferase 2E
UniProt Synonym Protein Names	Myeloid/lymphoid or mixed-lineage leukemia protein 5
Protein Family	Histone-lysine N-methyltransferase
UniProt Gene Name	KMT2E
UniProt Synonym Gene Names	MLL5; Lysine N-methyltransferase 2E
UniProt Entry Name	KMT2E_HUMAN
NCBI Protein Information	histone-lysine N-methyltransferase 2E
NCBI Summary for KMT2E	This gene is a member of the myeloid/lymphoid or mixed-lineage leukemia (MLL) family and encodes a protein with an N-terminal PHD zinc finger and a central SET domain. Overexpression of the protein inhibits cell cycle progression. Alternate transcriptional splice variants have been characterized. [provided by RefSeq, Jul 2008]
UniProt Comments for KMT2E	MLL5: Histone methyltransferase that specifically mono- and dimethylates 'Lys-4' of histone H3 (H3K4me1 and H3K4me2). H3 'Lys- 4' methylation represents a specific tag for epigenetic transcriptional activation. Key regulator of hematopoiesis involved in terminal myeloid differentiation and in the regulation of hematopoietic stem cell (HSCs) self-renewal by a mechanism that involves DNA methylation. Plays an essential role in retinoic- acid-induced granulopoiesis by acting as a coactivator of RAR- alpha (RARA) in target gene promoters. Also acts as an important cell cycle regulator, participating in cell cycle regulatory network machinery at multiple cell cycle stages. Required to suppress inappropriate expression of S-phase-promoting genes and maintain expression of determination genes in quiescent cells. Overexpression inhibits cell cycle progression, while knockdown induces cell cycle arrest at both the G1 and G2/M phases. Belongs to the histone-lysine methyltransferase family. TRX/MLL subfamily. 7 isoforms of the human protein are produced by alternative splicing. Protein type: Cell cycle regulation; EC 2.1.1.43; Transcription, coactivator/corepressor; Methyltransferase; Methyltransferase, protein lysine Chromosomal Location of Human Ortholog: 7q22.1 Cellular Component: nucleoplasm; intercellular bridge; intracellular membrane-bound organelle; cytoplasm; plasma membrane; nuclear speck Molecular Function: protein binding; enzyme binding; zinc ion binding; histone lysine N-methyltransferase activity (H3-K4 specific); transcription coactivator activity Biological Process: retinoic acid receptor signaling pathway; establishment and/or maintenance of chromatin architecture; transcription, DNA-dependent; neutrophil activation; positive regulation of transcription, DNA-dependent; positive regulation of granulocyte differentiation; histone H3-K4 methylation; neutrophil mediated immunity; DNA methylation; erythrocyte differentiation; cell cycle arrest
Research Articles on KMT2E	**1.** Improved outcome is observed in decitabine-treated patients who express MLL5 at high levels.

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