KLK4 siRNA – Kallikrein-4 Isoform 2 (Human)

PRODUCT OVERVIEW

Product Name	KLK4, siRNA
Full Product Name	KLK4 siRNA (Human)
Product Gene Name	KLK4 sirna
Product Synonym Names	EMSP1; PRSS17; PSTS; Kallikrein-4; Enamel matrix serine proteinase 1; Kallikrein-like protein 1; KLK-L1; Prostase; Serine protease 17
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	KLK4 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	11,858 Da
OMIM	204700
3D Structure	ModBase 3D Structure for Q9Y5K2
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 KLK4 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 KLK4 sirna	RNA Interference (RNAi)
Related Product Information for KLK4 sirna	MBS8229575 is an siRNA targeting KLK4. Also known as KLK4 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit KLK4 expression using RNA interference
Other Notes	Small volumes of KLK4 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 KLK4. It may not necessarily be applicable to this product.

NCBI GI #	729042255
NCBI GeneID	9622
NCBI Accession #	NP_001289890.1
UniProt Primary Accession #	Q9Y5K2
UniProt Secondary Accession #	Q4VB16; Q96RU5; Q9GZL6; Q9UBJ6
UniProt Related Accession #	Q9Y5K2
GenBank Nucleotide #	NM_001302961.1
NCBI Official Full Name	kallikrein-4 isoform 2
NCBI Official Synonym Full Names	kallikrein-related peptidase 4
NCBI Official Symbol	KLK4
NCBI Official Synonym Symbols	ARM1; EMSP; PSTS; AI2A1; EMSP1; KLK-L1; PRSS17; kallikrein
UniProt Protein Name	Kallikrein-4
UniProt Synonym Protein Names	Enamel matrix serine proteinase 1; Kallikrein-like protein 1; KLK-L1; Prostase; Serine protease 17
Protein Family	Kallikrein
UniProt Gene Name	KLK4
UniProt Synonym Gene Names	EMSP1; PRSS17; PSTS; KLK-L1
UniProt Entry Name	KLK4_HUMAN
NCBI Protein Information	kallikrein-4
NCBI Summary for KLK4	Kallikreins are a subgroup of serine proteases having diverse physiological functions. Growing evidence suggests that many kallikreins are implicated in carcinogenesis and some have potential as novel cancer and other disease biomarkers. This gene is one of the fifteen kallikrein subfamily members located in a cluster on chromosome 19. In some tissues its expression is hormonally regulated. The expression pattern of a similar mouse protein in murine developing teeth supports a role for the protein in the degradation of enamel proteins. Several transcript variants encoding different proteins have been found for this gene. [provided by RefSeq, Dec 2014]
UniProt Comments for KLK4	KLK4: Involved in enamel formation. Defects in KLK4 are the cause of amelogenesis imperfecta hypomaturation type 2A1 (AI2A1). AI2A1 is an autosomal recessive defect of enamel formation. The disorder involves both primary and secondary dentitions. The teeth have a shiny agar jelly appearance and the enamel is softer than normal. Brown pigment is present in middle layers of enamel. Belongs to the peptidase S1 family. Kallikrein subfamily. Protein type: Secreted; Protease; EC 3.4.21.-; Secreted, signal peptide Chromosomal Location of Human Ortholog: 19q13.41 Cellular Component: extracellular region Molecular Function: serine-type peptidase activity; serine-type endopeptidase activity; metal ion binding Biological Process: extracellular matrix disassembly; protein catabolic process; proteolysis Disease: Amelogenesis Imperfecta, Hypomaturation Type, Iia1
Research Articles on KLK4	**1.** Human ephrin-B2 is poorly cleaved by KLK4 while the homologous mouse is not.
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