LEPRE1 siRNA – Prolyl 3-Hydroxylase 1 Isoform 2 (Human)

PRODUCT OVERVIEW

Product Name	LEPRE1, siRNA
Full Product Name	LEPRE1 siRNA (Human)
Product Gene Name	LEPRE1 sirna
Product Synonym Names	GROS1; P3H1; Prolyl 3-hydroxylase 1; Growth suppressor 1; Leucine- and proline-enriched proteoglycan 1; Leprecan-1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	LEPRE1 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	78,922 Da
OMIM	610339
3D Structure	ModBase 3D Structure for Q32P28
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 LEPRE1 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 LEPRE1 sirna	RNA Interference (RNAi)
Related Product Information for LEPRE1 sirna	MBS8221809 is an siRNA targeting LEPRE1. Also known as LEPRE1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit LEPRE1 expression using RNA interference
Other Notes	Small volumes of LEPRE1 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 LEPRE1. It may not necessarily be applicable to this product.

NCBI GI #	226371643
NCBI GeneID	64175
NCBI Accession #	NP_001139761.1
UniProt Primary Accession #	Q32P28
UniProt Secondary Accession #	Q7KZR4; Q96BR8; Q96SK8; Q96SL5; Q96SN3; Q9H6K3; Q9HC86; Q9HC87
UniProt Related Accession #	Q32P28
GenBank Nucleotide #	NM_001146289.1
NCBI Official Full Name	prolyl 3-hydroxylase 1 isoform 2
NCBI Official Synonym Full Names	prolyl 3-hydroxylase 1
NCBI Official Symbol	P3H1
NCBI Official Synonym Symbols	OI8; GROS1; LEPRE1
UniProt Protein Name	Prolyl 3-hydroxylase 1
UniProt Synonym Protein Names	Growth suppressor 1; Leucine- and proline-enriched proteoglycan 1; Leprecan-1
UniProt Gene Name	LEPRE1
UniProt Synonym Gene Names	GROS1; P3H1; Leprecan-1
UniProt Entry Name	P3H1_HUMAN
NCBI Protein Information	prolyl 3-hydroxylase 1
NCBI Summary for LEPRE1	This gene encodes an enzyme that is a member of the collagen prolyl hydroxylase family. These enzymes are localized to the endoplasmic reticulum and their activity is required for proper collagen synthesis and assembly. Mutations in this gene are associated with osteogenesis imperfecta type VIII. Three alternatively spliced transcript variants encoding different isoforms have been described. Other variants may exist, but their biological validity has not been determined. [provided by RefSeq, Aug 2011]
UniProt Comments for LEPRE1	LEPRE1: Basement membrane-associated chondroitin sulfate proteoglycan (CSPG). Has prolyl 3-hydroxylase activity catalyzing the post-translational formation of 3-hydroxyproline in -Xaa-Pro- Gly- sequences in collagens, especially types IV and V. May be involved in the secretory pathway of cells. Has growth suppressive activity in fibroblasts. Defects in LEPRE1 are the cause of osteogenesis imperfecta type 8 (OI8). A connective tissue disorder characterized by disproportionate short stature, severe osteoporosis, shortening of the long bones, white sclerae, a round face and a short barrel-shaped chest. Belongs to the leprecan family. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Secreted; Cell development/differentiation; EC 1.14.11.7; Secreted, signal peptide; Oxidoreductase Chromosomal Location of Human Ortholog: 1p34.1 Cellular Component: proteinaceous extracellular matrix; membrane; endoplasmic reticulum lumen; endoplasmic reticulum; nucleus Molecular Function: collagen binding; procollagen-proline 3-dioxygenase activity; L-ascorbic acid binding; iron ion binding; protein complex binding Biological Process: negative regulation of cell proliferation; extracellular matrix organization and biogenesis; regulation of protein secretion; collagen fibril organization; protein folding; collagen metabolic process; protein stabilization; peptidyl-proline hydroxylation; protein amino acid hydroxylation; cell growth; regulation of ossification Disease: Osteogenesis Imperfecta, Type Viii
Research Articles on LEPRE1	**1.** An additional function of the rough endoplasmic reticulum protein complex prolyl 3-hydroxylase 1.cartilage-associated protein.cyclophilin B: the CXXXC motif reveals disulfide isomerase activity in vitro.

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