PTH1R siRNA – Parathyroid Hormone/Parathyroid Hormone-Related Peptide Receptor (Mouse)

PRODUCT OVERVIEW

Product Name	PTH1R, siRNA
Full Product Name	PTH1R siRNA (Mouse)
Product Gene Name	PTH1R sirna
Product Synonym Names	PTHR; PTHR1; Parathyroid hormone/parathyroid hormone-related peptide receptor; PTH/PTHrP type I receptor; PTH/PTHr receptor; Parathyroid hormone 1 receptor; PTH1 receptor
Host	Synthetic
Species Reactivity	Mouse
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	PTH1R siRNA (Mouse) 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	66,372 Da
3D Structure	ModBase 3D Structure for P41593
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 mouse PTH1R 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 PTH1R sirna	RNA Interference (RNAi)
Related Product Information for PTH1R sirna	MBS8207628 is an siRNA targeting PTH1R. Also known as PTH1R siRNA (Mouse). Reactive in Mouse. Host: Synthetic. siRNA to inhibit PTH1R expression using RNA interference
Other Notes	Small volumes of PTH1R 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 PTH1R. It may not necessarily be applicable to this product.

NCBI GI #	145279235
NCBI GeneID	19228
NCBI Accession #	NP_001077404.1
UniProt Primary Accession #	P41593
UniProt Secondary Accession #	Q62119; Q80WU8
UniProt Related Accession #	P41593
GenBank Nucleotide #	NM_001083935.1
NCBI Official Full Name	parathyroid hormone/parathyroid hormone-related peptide receptor
NCBI Official Synonym Full Names	parathyroid hormone 1 receptor
NCBI Official Symbol	Pth1r
NCBI Official Synonym Symbols	PPR; Pthr; Pthr1
UniProt Protein Name	Parathyroid hormone/parathyroid hormone-related peptide receptor
UniProt Synonym Protein Names	PTH/PTHrP type I receptor; PTH/PTHr receptor; Parathyroid hormone 1 receptor; PTH1 receptor
Protein Family	Parathyroid hormone/parathyroid hormone-related peptide receptor
UniProt Gene Name	Pth1r
UniProt Synonym Gene Names	Pthr; Pthr1; PTH/PTHr receptor; PTH1 receptor
UniProt Entry Name	PTH1R_MOUSE
NCBI Protein Information	parathyroid hormone/parathyroid hormone-related peptide receptor

UniProt Comments for PTH1R	PTHR: This is a receptor for parathyroid hormone and for parathyroid hormone-related peptide. The activity of this receptor is mediated by G proteins which activate adenylyl cyclase and also a phosphatidylinositol-calcium second messenger system. Defects in PTH1R are the cause of Jansen metaphyseal chondrodysplasia (JMC). JMC is a rare autosomal dominant disorder characterized by a short-limbed dwarfism associated with hypercalcemia and normal or low serum concentrations of the two parathyroid hormones. Defects in PTH1R are the cause of chondrodysplasia Blomstrand type (BOCD). BOCD is a severe skeletal dysplasia. Defects in PTH1R may be a cause of enchondromatosis multiple (ENCHOM). Enchondromas are common benign cartilage tumors of bone. They can occur as solitary lesions or as multiple lesions in enchondromatosis (Ollier and Maffucci diseases). Clinical problems caused by enchondromas include skeletal deformity and the potential for malignant change to osteosarcoma. Defects in PTH1R are the cause of Eiken skeletal dysplasia (EISD); also known as bone modeling defect of hands and feet. It is a rare familial autosomal recessive skeletal dysplasia. It is characterized by multiple epiphyseal dysplasia, with extremely retarded ossification, principally of the epiphyses, pelvis, hands and feet, as well as by abnormal modeling of the bones in hands and feet, abnormal persistence of cartilage in the pelvis and mild growth retardation. Defects in PTH1R are a cause of primary failure of tooth eruption (PFE). PFE is a rare condition that has high penetrance and variable expressivity and in which tooth retention occurs without evidence of any obvious mechanical interference. Instead, malfunction of the eruptive mechanism itself appears to cause nonankylosed permanent teeth to fail to erupt, although the eruption pathway has been cleared by bone resorption. Belongs to the G-protein coupled receptor 2 family. Protein type: Membrane protein, integral; Receptor, GPCR; Membrane protein, multi-pass; GPCR, family 2 Cellular Component: brush border membrane; basolateral plasma membrane; integral to plasma membrane; cell; integral to membrane; cytosol; membrane; apical plasma membrane; cytoplasm; plasma membrane; intracellular; nucleus; receptor complex Molecular Function: G-protein coupled receptor activity; signal transducer activity; transmembrane receptor activity; protein self-association; peptide hormone binding; parathyroid hormone receptor activity Biological Process: ossification; cell maturation; signal transduction; G-protein signaling, adenylate cyclase activating pathway; bone mineralization; osteoblast development; G-protein signaling, coupled to cAMP nucleotide second messenger; cellular calcium ion homeostasis; G-protein signaling, coupled to cyclic nucleotide second messenger; G-protein coupled receptor protein signaling pathway; negative regulation of cell proliferation; elevation of cytosolic calcium ion concentration; cell surface receptor linked signal transduction; positive regulation of cell proliferation; chondrocyte differentiation; G-protein signaling, coupled to IP3 second messenger (phospholipase C activating); skeletal development; bone resorption
Research Articles on PTH1R	**1.** Cbfbeta functions in upregulating Ihh expression to promoter chondrocyte proliferation and osteoblast differentiation, and inhibiting PPR expression to enhance chondrocyte differentiation.
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