RSPO4 siRNA – R-Spondin-4 Isoform 1 (Human)

PRODUCT OVERVIEW

Product Name	RSPO4, siRNA
Full Product Name	RSPO4 siRNA (Human)
Product Gene Name	RSPO4 sirna
Product Synonym Names	C20orf182; R-spondin-4; Roof plate-specific spondin-4; hRspo4
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	RSPO4 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	19,607 Da
OMIM	206800
3D Structure	ModBase 3D Structure for Q2I0M5
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 RSPO4 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 RSPO4 sirna	RNA Interference (RNAi)
Related Product Information for RSPO4 sirna	MBS8219010 is an siRNA targeting RSPO4. Also known as RSPO4 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit RSPO4 expression using RNA interference
Other Notes	Small volumes of RSPO4 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 RSPO4. It may not necessarily be applicable to this product.

NCBI GI #	83722284
NCBI GeneID	343637
NCBI Accession #	NP_001025042.2
UniProt Primary Accession #	Q2I0M5
UniProt Secondary Accession #	Q9UGB2; A2A2I6
UniProt Related Accession #	Q2I0M5
GenBank Nucleotide #	NM_001029871.3
NCBI Official Full Name	R-spondin-4 isoform 1
NCBI Official Synonym Full Names	R-spondin 4
NCBI Official Symbol	RSPO4
NCBI Official Synonym Symbols	CRISTIN4; C20orf182
UniProt Protein Name	R-spondin-4
UniProt Synonym Protein Names	Roof plate-specific spondin-4; hRspo4
Protein Family	R-spondin
UniProt Gene Name	RSPO4
UniProt Synonym Gene Names	C20orf182; hRspo4
UniProt Entry Name	RSPO4_HUMAN
NCBI Protein Information	R-spondin-4
NCBI Summary for RSPO4	This gene encodes a member of the R-spondin family of proteins that share a common domain organization consisting of a signal peptide, cysteine-rich/furin-like domain, thrombospondin domain and a C-terminal basic region. The encoded protein may be involved in activation of Wnt/beta-catenin signaling pathways. Mutations in this gene are associated with anonychia congenital. Alternate splicing results in multiple transcript variants.[provided by RefSeq, Sep 2009]
UniProt Comments for RSPO4	R-spondin-4: Activator of the beta-catenin signaling cascade, leading to TCF-dependent gene activation. Acts both in the canonical Wnt/beta-catenin-dependent pathway and in non-canonical Wnt signaling pathway, probably by acting as an inhibitor of ZNRF3, an important regulator of the Wnt signaling pathway. Defects in RSPO4 are the cause of nail disorder non- syndromic congenital type 4 (NDNC4). A nail disorder characterized by congenital anonychia or its milder phenotypic variant hyponychia. Anonychia/hyponychia is the absence or severe hypoplasia of all fingernails and toenails without significant bone anomalies. Belongs to the R-spondin family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Secreted; Secreted, signal peptide; Cell development/differentiation Chromosomal Location of Human Ortholog: 20p13 Cellular Component: extracellular space; extracellular region Molecular Function: heparin binding; G-protein-coupled receptor binding Biological Process: Wnt receptor signaling pathway Disease: Nail Disorder, Nonsyndromic Congenital, 4
Research Articles on RSPO4	**1.** A novel nonsense mutation in RSPO4 gene involves in the development of anonychia congenita.

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