SLIT2 siRNA – Slit Homolog 2 Protein Isoform 2 (Human)

PRODUCT OVERVIEW

Product Name	SLIT2, siRNA
Full Product Name	SLIT2 siRNA (Human)
Product Gene Name	SLIT2 sirna
Product Synonym Names	SLIL3; Slit homolog 2 protein; Slit-2
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	SLIT2 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	168,893 Da
OMIM	603746
3D Structure	ModBase 3D Structure for O94813
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 SLIT2 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 SLIT2 sirna	RNA Interference (RNAi)
Related Product Information for SLIT2 sirna	MBS8237413 is an siRNA targeting SLIT2. Also known as SLIT2 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit SLIT2 expression using RNA interference
Other Notes	Small volumes of SLIT2 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 SLIT2. It may not necessarily be applicable to this product.

NCBI GI #	574281850
NCBI GeneID	9353
NCBI Accession #	NP_001276064.1
UniProt Primary Accession #	O94813
UniProt Secondary Accession #	O95710; Q17RU3; Q9Y5Q7; B7ZLR5
UniProt Related Accession #	O94813
GenBank Nucleotide #	NM_001289135.1
NCBI Official Full Name	slit homolog 2 protein isoform 2
NCBI Official Synonym Full Names	slit guidance ligand 2
NCBI Official Symbol	SLIT2
NCBI Official Synonym Symbols	SLIL3; Slit-2
UniProt Protein Name	Slit homolog 2 protein
Protein Family	Slit homolog 2 protein
UniProt Gene Name	SLIT2
UniProt Synonym Gene Names	SLIL3; Slit-2
UniProt Entry Name	SLIT2_HUMAN
NCBI Protein Information	slit homolog 2 protein
NCBI Summary for SLIT2	This gene encodes a member of the slit family of secreted glycoproteins, which are ligands for the Robo family of immunoglobulin receptors. Slit proteins play highly conserved roles in axon guidance and neuronal migration and may also have functions during other cell migration processes including leukocyte migration. Members of the slit family are characterized by an N-terminal signal peptide, four leucine-rich repeats, nine epidermal growth factor repeats, and a C-terminal cysteine knot. Proteolytic processing of this protein gives rise to an N-terminal fragment that contains the four leucine-rich repeats and five epidermal growth factor repeats and a C-terminal fragment that contains four epidermal growth factor repeats and the cysteine knot. Both full length and cleaved proteins are secreted extracellularly and can function in axon repulsion as well as other specific processes. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Sep 2015]

UniProt Comments for SLIT2	SLIT2: Thought to act as molecular guidance cue in cellular migration, and function appears to be mediated by interaction with roundabout homolog receptors. During neural development involved in axonal navigation at the ventral midline of the neural tube and projection of axons to different regions. SLIT1 and SLIT2 seem to be essential for midline guidance in the forebrain by acting as repulsive signal preventing inappropriate midline crossing by axons projecting from the olfactory bulb. In spinal chord development may play a role in guiding commissural axons once they reached the floor plate by modulating the response to netrin. In vitro, silences the attractive effect of NTN1 but not its growth- stimulatory effect and silencing requires the formation of a ROBO1-DCC complex. May be implicated in spinal chord midline post- crossing axon repulsion. In vitro, only commissural axons that crossed the midline responded to SLIT2. In the developing visual system appears to function as repellent for retinal ganglion axons by providing a repulsion that directs these axons along their appropriate paths prior to, and after passage through, the optic chiasm. In vitro, collapses and repels retinal ganglion cell growth cones. Seems to play a role in branching and arborization of CNS sensory axons, and in neuronal cell migration. In vitro, Slit homolog 2 protein N-product, but not Slit homolog 2 protein C-product, repels olfactory bulb (OB) but not dorsal root ganglia (DRG) axons, induces OB growth cones collapse and induces branching of DRG axons. Seems to be involved in regulating leukocyte migration. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Secreted, signal peptide; Motility/polarity/chemotaxis; Extracellular matrix; Secreted Chromosomal Location of Human Ortholog: 4p15.2 Cellular Component: extracellular space; cell surface; membrane; cytoplasm; plasma membrane; extracellular region Molecular Function: heparin binding; laminin-1 binding; identical protein binding; protein binding; proteoglycan binding; protein homodimerization activity; Roundabout binding; chemorepellent activity; calcium ion binding; GTPase inhibitor activity Biological Process: negative regulation of small GTPase mediated signal transduction; axon guidance; positive regulation of apoptosis; negative chemotaxis; motor axon guidance; negative regulation of smooth muscle cell migration; negative regulation of axon extension; induction of negative chemotaxis; corticospinal neuron axon guidance through the spinal cord; negative regulation of cell proliferation; cell-cell adhesion; response to cortisol stimulus; negative regulation of protein amino acid phosphorylation; ureteric bud development; negative regulation of leukocyte chemotaxis; negative regulation of cell migration; in utero embryonic development; negative regulation of actin filament polymerization; chemorepulsion involved in postnatal olfactory bulb interneuron migration; dorsal/ventral axon guidance; cellular response to hormone stimulus; axon extension involved in axon guidance; chemorepulsion involved in embryonic olfactory bulb interneuron migration; branching morphogenesis of a tube; cell migration during sprouting angiogenesis; negative regulation of catalytic activity; negative regulation of vascular permeability; positive regulation of axonogenesis; negative regulation of cell growth; metanephros development; retinal ganglion cell axon guidance
Research Articles on SLIT2	**1.** Slit2 is decreased in human myometrium after labor and knock-down studies describe an anti-inflammatory effect of Slit2 in myometrial cells.
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