TLR2 siRNA – Toll-Like Receptor 2 (Human)

PRODUCT OVERVIEW

Product Name	TLR2, siRNA
Full Product Name	TLR2 siRNA (Human)
Product Gene Name	TLR2 sirna
Product Synonym Names	TIL4; Toll-like receptor 2; Toll/interleukin-1 receptor-like protein 4; CD antigen CD282
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	TLR2 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	89,838 Da
OMIM	246300
3D Structure	ModBase 3D Structure for O60603
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 TLR2 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 TLR2 sirna	RNA Interference (RNAi)
Related Product Information for TLR2 sirna	MBS8236498 is an siRNA targeting TLR2. Also known as TLR2 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit TLR2 expression using RNA interference
Other Notes	Small volumes of TLR2 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 TLR2. It may not necessarily be applicable to this product.

NCBI GI #	19718734
NCBI GeneID	7097
NCBI Accession #	NP_003255.2
UniProt Primary Accession #	O60603
UniProt Secondary Accession #	O15454; Q8NI00; B3Y612; D1CS45; D1CS48; D1CS49
UniProt Related Accession #	O60603
GenBank Nucleotide #	NM_003264.3
NCBI Official Full Name	toll-like receptor 2
NCBI Official Synonym Full Names	toll-like receptor 2
NCBI Official Symbol	TLR2
NCBI Official Synonym Symbols	TIL4; CD282
UniProt Protein Name	Toll-like receptor 2
UniProt Synonym Protein Names	Toll/interleukin-1 receptor-like protein 4; CD_antigen: CD282
Protein Family	Toll-like receptor
UniProt Gene Name	TLR2
UniProt Synonym Gene Names	TIL4
UniProt Entry Name	TLR2_HUMAN
NCBI Protein Information	toll-like receptor 2
NCBI Summary for TLR2	The protein encoded by this gene is a member of the Toll-like receptor (TLR) family which plays a fundamental role in pathogen recognition and activation of innate immunity. TLRs are highly conserved from Drosophila to humans and share structural and functional similarities. They recognize pathogen-associated molecular patterns (PAMPs) that are expressed on infectious agents, and mediate the production of cytokines necessary for the development of effective immunity. The various TLRs exhibit different patterns of expression. This gene is expressed most abundantly in peripheral blood leukocytes, and mediates host response to Gram-positive bacteria and yeast via stimulation of NF-kappaB. [provided by RefSeq, Jul 2008]

UniProt Comments for TLR2	TLR2: Cooperates with LY96 to mediate the innate immune response to bacterial lipoproteins and other microbial cell wall components. Cooperates with TLR1 to mediate the innate immune response to bacterial lipoproteins or lipopeptides. Acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response. May also promote apoptosis in response to lipoproteins. Recognizes mycoplasmal macrophage- activating lipopeptide-2kD (MALP-2), soluble tuberculosis factor (STF), phenol-soluble modulin (PSM) and B.burgdorferi outer surface protein A lipoprotein (OspA-L) cooperatively with TLR6. Interacts with LY96, TLR1 and TLR6 (via extracellular domain). Binds MYD88 (via TIR domain). Interacts with TICAM1. Ligand binding induces the formation of a heterodimer with TLR1. Interacts with CNPY3. Highly expressed in peripheral blood leukocytes, in particular in monocytes, in bone marrow, lymph node and in spleen. Also detected in lung and in fetal liver. Levels are low in other tissues. Belongs to the Toll-like receptor family. Protein type: Motility/polarity/chemotaxis; Receptor, misc.; Membrane protein, integral; Apoptosis; Cell surface Chromosomal Location of Human Ortholog: 4q32 Cellular Component: cell projection; cell surface; integral to plasma membrane; cytoplasm; plasma membrane; external side of plasma membrane Molecular Function: peptidoglycan binding; protein binding; transmembrane receptor activity; protein heterodimerization activity; triacylated lipoprotein binding; lipopolysaccharide receptor activity; receptor activity; pattern recognition receptor activity; diacylated lipoprotein binding Biological Process: positive regulation of nitric oxide biosynthetic process; response to toxin; positive regulation of leukocyte migration; positive regulation of NF-kappaB import into nucleus; leukotriene metabolic process; detection of triacylated bacterial lipoprotein; positive regulation of interleukin-10 production; activation of NF-kappaB transcription factor; positive regulation of interferon-beta production; positive regulation of oligodendrocyte differentiation; toll-like receptor 4 signaling pathway; negative regulation of interleukin-12 production; detection of diacylated bacterial lipoprotein; cell surface pattern recognition receptor signaling pathway; positive regulation of interleukin-6 production; positive regulation of tumor necrosis factor production; positive regulation of chemokine production; toll-like receptor 2 signaling pathway; defense response to Gram-positive bacterium; myelin formation in the central nervous system; positive regulation of transcription from RNA polymerase II promoter; I-kappaB phosphorylation; response to progesterone stimulus; positive regulation of nitric-oxide synthase biosynthetic process; positive regulation of interleukin-12 production; apoptosis; microglial cell activation; response to molecule of fungal origin; signal transduction; positive regulation of interleukin-18 production; nitric oxide metabolic process; response to insulin stimulus; positive regulation of interleukin-8 production; negative regulation of cell proliferation; lipopolysaccharide-mediated signaling pathway; inflammatory response; positive regulation of Wnt receptor signaling pathway; positive regulation of tumor necrosis factor biosynthetic process; positive regulation of toll-like receptor signaling pathway; MyD88-dependent toll-like receptor signaling pathway; induction by symbiont of defense-related host nitric oxide production; negative regulation of interleukin-17 production; toll-like receptor signaling pathway; response to hypoxia; innate immune response; immune response; chloramphenicol transport; positive regulation of inflammatory response; positive regulation of cytokine secretion Disease: Leprosy, Susceptibility To, 3; Mycobacterium Tuberculosis, Susceptibility To
Research Articles on TLR2	**1.** MMP-2 polarizes T cells toward type 2 responses in vivo, in a TLR2-dependent manner.
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