DLG4 siRNA – Disks Large Homolog 4 (Rat)

PRODUCT OVERVIEW

Product Name	DLG4, siRNA
Full Product Name	DLG4 siRNA (Rat)
Product Gene Name	DLG4 sirna
Product Synonym Names	DLGH4; PSD95; Disks large homolog 4; Postsynaptic density protein 95; PSD-95; Synapse-associated protein 90; SAP-90; SAP90
Host	Synthetic
Species Reactivity	Rat
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	DLG4 siRNA (Rat) 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	– Da
3D Structure	ModBase 3D Structure for P31016
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 rat DLG4 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 DLG4 sirna	RNA Interference (RNAi)
Related Product Information for DLG4 sirna	MBS8227618 is an siRNA targeting DLG4. Also known as DLG4 siRNA (Rat). Reactive in Rat. Host: Synthetic. siRNA to inhibit DLG4 expression using RNA interference
Other Notes	Small volumes of DLG4 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 DLG4. It may not necessarily be applicable to this product.

NCBI GI #	9665227

NCBI GeneID	29495
NCBI Accession #	NP_062567.1
UniProt Primary Accession #	P31016
UniProt Secondary Accession #	P97631
UniProt Related Accession #	P31016
GenBank Nucleotide #	NM_019621.1
NCBI Official Full Name	disks large homolog 4
NCBI Official Synonym Full Names	discs, large homolog 4 (Drosophila)
NCBI Official Symbol	Dlg4
NCBI Official Synonym Symbols	Dlgh4; PSD95; Sap90
UniProt Protein Name	Disks large homolog 4
UniProt Synonym Protein Names	Postsynaptic density protein 95; PSD-95; Synapse-associated protein 90; SAP-90; SAP90
Protein Family	Disks large
UniProt Gene Name	Dlg4
UniProt Synonym Gene Names	Dlgh4; Psd95; PSD-95; SAP-90; SAP90
UniProt Entry Name	DLG4_RAT
NCBI Protein Information	disks large homolog 4
NCBI Summary for DLG4	a molecular scaffolding protein that binds and clusters N-methyl-D-aspartate receptors at neuronal synapses; may be involved in guanine nucleotide-mediated signal transduction pathway [RGD, Feb 2006]

UniProt Comments for DLG4	PSD-95: a membrane associated guanylate kinase (MAGUK) scaffolding protein located in neural postsynaptic densities. Associates with NMDA receptor NR2 subunits via glutamate serine (aspartate/glutamate) valine motifs in the cytoplasmic tail of NMDA receptor subunits and shaker-type potassium channels. Required for synaptic plasticity associated with NMDA receptor signaling. Its overexpression or depletion changes the ratio of excitatory to inhibitory synapses in hippocampal neurons. High levels in postsynaptic density of neurons in the forebrain. Also in presynaptic region of inhibitory synapses formed by cerebellar basket cells on axon hillocks of Purkinje cells. May reduce the amplitude of ACCN3 acid-evoked currents by retaining the channel intracellularly. Binds tissue-type plasminogen activator (tPA), mediating neural NMDA gating via a complex of LRP1, PSD-95 and NMDAR. Interacts through its first two PDZ domains with NMDAR2A, NMDAR2B, NMDAR2C, NMDAR2D, ACCN3, certain splice forms of NMDAR1, KV4.2, CXADR and synGAP. Interacts through its first two PDZ domains with Kv1.1, Kv1.2, Kv1.3, Kv1.4 and HER4. Interacts through its first PDZ domain with GluR6 and Kv1.4. Interacts through its second PDZ domain with the PDZ domain of nNOS or the C-terminus of NOS1AP. May interact with 5-HT(2A). Interacts through its third PDZ domain with NLGN1, and probably with NLGN2 and NLGN3. Interacts through its guanylate kinase-like domain with SAPAP1, SAPAP2, SAPAP3, SAPAP4, MAP1A, and BEGAIN. Interacts through its guanylate kinase-like domain with KIF13B. Two alternatively spliced human isoforms have been reported. Palmitoylation of isoform 1 is required for targeting to postsynaptic density. Protein type: Adaptor/scaffold Cellular Component: dendrite cytoplasm; cortical cytoskeleton; voltage-gated potassium channel complex; basolateral plasma membrane; endoplasmic reticulum; postsynaptic density; dendrite; dendritic spine; excitatory synapse; postsynaptic membrane; synaptic vesicle; extrinsic to internal side of plasma membrane; membrane; cytoplasm; plasma membrane; ionotropic glutamate receptor complex; synapse; cell junction Molecular Function: P2Y1 nucleotide receptor binding; protein C-terminus binding; glutamate receptor binding; beta-1 adrenergic receptor binding; acetylcholine receptor binding; protein kinase binding; protein phosphatase binding; PDZ domain binding; ionotropic glutamate receptor binding; guanylate kinase activity; protein binding; protein complex binding; D1 dopamine receptor binding; receptor binding Biological Process: establishment and/or maintenance of epithelial cell polarity; regulation of long-term neuronal synaptic plasticity; elevation of cytosolic calcium ion concentration; establishment of protein localization; synaptic vesicle maturation; protein complex assembly; social behavior; neuromuscular process controlling balance; neuronal ion channel clustering; positive regulation of synaptic transmission; nucleotide phosphorylation; negative regulation of receptor internalization
Research Articles on DLG4	**1.** This study observed a statistically significant (P < 0.05) decrease in the abundance of each of the three proteins (DISC1, PSD95, and NOS1) in ipsilateral traumatic brain injury tissues.
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