10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PSD95 Recombinant Rabbit mAb

Catalog # AP96628

Product Information

Application	WB
Primary Accession	Q62108
Other Accession	Q62108
Reactivity	Rat, Mouse
Predicted	Human
Host	Rabbit
Clonality	Recombinant
Calculated MW	80472
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from mouse PSD95
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS(pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the MAGUK family. Contains 1 guanylate kinase-like domain.Contains 3 PDZ (DHR) domains.Contains 1 SH3 domain.
SUBUNIT	Interacts with ANKS1B, KLHL17 and PRR7. Interacts through its PDZ domains with NETO1. Interacts through its first two PDZ domains with GRIN2A, GRIN2B, GRIN2C, GRIN2D, ACCN3, certain splice forms of GRIN1, KCND2, CXADR and SYNGAP1. Interacts through its second PDZ domain with the PDZ domain of NOS1 or the C-terminus of CAPON. May interact with HTR2A. Interacts through its guanylate kinase-like domain with DLGAP1/GKAP, DLGAP2, DLGAP3, DLGAP4, MAP1A and BEGAIN. Interacts through its third PDZ domain with CRIPT (By similarity). Interacts through its first two PDZ domains with KCNA1, KCNA2, KCNA3, KCNA4 and ERBB4. Interacts through its first PDZ domain with GRIK2, KCNA4 and CRIPT. Interacts through its third PDZ domain with NLGN1, and probably with NLGN2 and NLGN3. Interacts through its guanylate kinase-like domain with KIF13B. Isoform 2 interacts through an L27 domain with HGS/HRS and the first L27 domain of CASK. Interacts with LRFN1, LRFN2 and LRFN4. Interacts with ANO2, ADAM22 and LGI1. Interacts with FRMPD4 (via C-terminus). Interacts (via PDZ1 and PDZ2 domains) with LRRC4; LRRC4B and SEMA4C. Interacts (via guanylate kinase-like domain) with SIPA1L1.
Post-translational modifications	Palmitoylation of isoform 1 is required for targeting to postsynaptic density.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the membrane-associated guanylate kinase (MAGUK) family. It heteromultimerizes with another MAGUK protein, DLG2, and is recruited into NMDA receptor and potassium channel clusters. These two MAGUK proteins may interact at postsynaptic sites to form a multimeric scaffold for the clustering of receptors, ion channels, and associated signaling proteins. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	13385
Other Names	MRD62; PSD95; SAP-90; SAP90; Dlgh4; PSD-95; SAP90A; DLG4_HUMAN; DLG4; Postsynaptic density protein 95 (PSD-95); Synapse-associated protein 90 (SAP-90 | SAP90); DLG4_MOUSE; DLG4_RAT; discs large MAGUK scaffold protein 4; discs, large homolog 4 (Drosophila); discs large homolog 4
Dilution	WB=1:500-2000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Dlg4 {ECO:0000312|MGI:MGI:1277959}
Synonyms	Dlgh4, Psd95
Function	Postsynaptic scaffolding protein that plays a critical role in synaptogenesis and synaptic plasticity by providing a platform for the postsynaptic clustering of crucial synaptic proteins (PubMed:15358775, PubMed:9853749). Interacts with the cytoplasmic tail of NMDA receptor subunits and shaker-type potassium channels. Required for synaptic plasticity associated with NMDA receptor signaling. Overexpression or depletion of DLG4 changes the ratio of excitatory to inhibitory synapses in hippocampal neurons. May reduce the amplitude of ASIC3 acid-evoked currents by retaining the channel intracellularly. May regulate the intracellular trafficking of ADR1B. Also regulates AMPA-type glutamate receptor (AMPAR) immobilization at postsynaptic density keeping the channels in an activated state in the presence of glutamate and preventing synaptic depression (Probable). Under basal conditions, cooperates with FYN to stabilize palmitoyltransferase ZDHHC5 at the synaptic membrane through FYN-mediated phosphorylation of ZDHHC5 and its subsequent inhibition of association with endocytic proteins (By similarity).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P31016}; Lipid-anchor {ECO:0000250|UniProtKB:P31016}; Cytoplasmic side {ECO:0000250|UniProtKB:P31016}. Postsynaptic density. Synapse Cytoplasm {ECO:0000250|UniProtKB:P31016}. Cell projection, axon {ECO:0000250|UniProtKB:P31016}. Cell projection, dendritic spine {ECO:0000250|UniProtKB:P31016}. Cell projection, dendrite {ECO:0000250|UniProtKB:P31016}. Presynapse {ECO:0000250|UniProtKB:P31016}. Note=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. Suppression of neuronal activity induces synaptic accumulation and clustering of DLG4. {ECO:0000250|UniProtKB:P31016}
Tissue Location	Expressed in the outer plexiform layer of the retina of the eye (at protein level) (PubMed:28334377). Highly expressed in CA1 stratum oriens and stratum radiatum hippocampal neurons (PubMed:26931375). Expressed in the striatum and in the cortex (PubMed:25979765).

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