

Anti-PSD95 Antibody
Catalog # ABO11603**Specification**

Anti-PSD95 Antibody - Product Information

Application	WB, IHC-P
Primary Accession	P78352
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Disks large homolog 4(DLG4) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-PSD95 Antibody - Additional Information

Gene ID 1742

Other Names

Disks large homolog 4, Postsynaptic density protein 95, PSD-95, Synapse-associated protein 90, SAP-90, SAP90, DLG4, PSD95

Calculated MW

80495 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization

Cell membrane ; Peripheral membrane protein . Cell junction, synapse, postsynaptic cell membrane, postsynaptic density . Cell projection, axon . Cell junction, synapse . 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.

Tissue Specificity

Brain.

Protein Name

Disks large homolog 4

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human PSD95(492-507aa RRVERREWSRLKAKDW), identical to the related rat and mouse sequences.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the MAGUK family.

Anti-PSD95 Antibody - Protein Information

Name DLG4 ([HGNC:2903](#))

Synonyms 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. 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 (AMPA) immobilization at postsynaptic density keeping the channels in an activated state in the presence of glutamate and preventing synaptic depression (By similarity). 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 (PubMed: <http://www.uniprot.org/citations/26334723> target="_blank">26334723).

Cellular Location

Cell membrane; Lipid-anchor; Cytoplasmic side. Postsynaptic density {ECO:0000250|UniProtKB:P31016}. 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

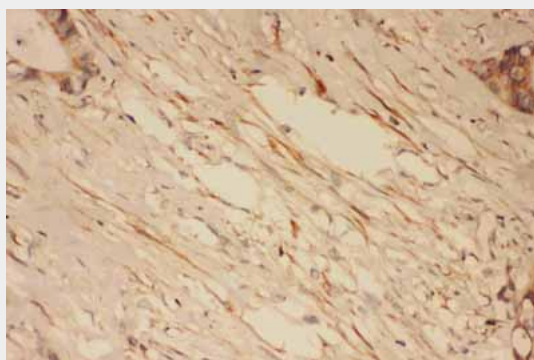
Brain.

Anti-PSD95 Antibody - Protocols

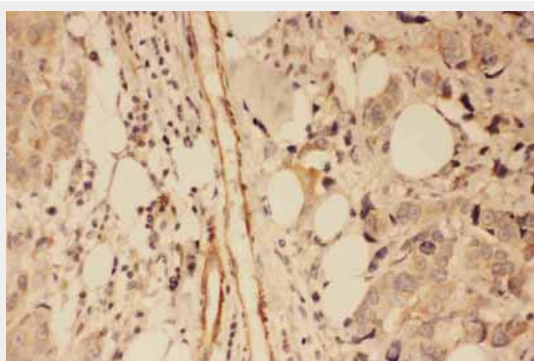
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

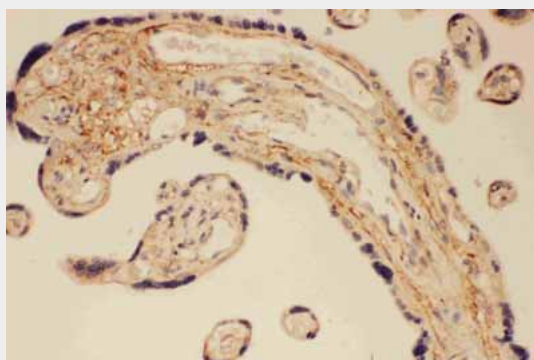
Anti-PSD95 Antibody - Images



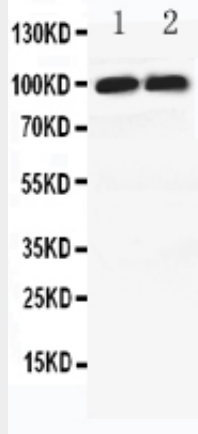
Anti-PSD95 antibody, ABO11603, IHC(P)IHC(P): Human Intestinal Cancer Tissue



Anti-PSD95 antibody, ABO11603, IHC(P)IHC(P): Human Mammary Cancer Tissue



Anti-PSD95 antibody, ABO11603, IHC(P)IHC(P): Human Placenta Tissue



Anti-PSD95 antibody, ABO11603, All Western blottingAll lanes: Anti-DLG4 (ABO11603) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 40ugLane 2: HELA Whole Cell Lysate at 40ugPredicted bind size: 80KDObserved bind size: 100KD

Anti-PSD95 Antibody - Background

DLG4 discs large homolog 4, also known as PSD95 or SAP-90, is a protein that in humans is encoded by the DLG4 gene. It is a member of the membrane-associated guanylate kinase(MAGUK) family. This gene is mapped to 17p13.1. DLG4 can heteromultimerize 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. Overexpression of DLG4 in hippocampal neurons could drive maturation of glutamatergic synapses. DLG4 can orchestrate synaptic development and it has a role in synapse stabilization and plasticity. Ubiquitination of DLG4 through an MDM2-mediated pathway can regulate AMPA receptor surface expression during synaptic plasticity.