

Monoclonal Antibody to DLG4 / PSD95 - Purified

Alternate names:	DLGH4, Disks large homolog 4, PSD-95, Postsynaptic density protein 95, SAP-90, SAP90, Synapse-associated protein 90
Catalog No.:	AM12014PU-S
Quantity:	25 µg
Concentration:	1.0 mg/ml
Background:	<p>Postsynaptic Density protein 95 (PSD95), also known as Synapse associated protein 90kDa, is a member of the membrane-associated guanylate kinase (MAGUK) family of proteins. PSD95 is a scaffolding protein and is involved in the assembly and function of the postsynaptic density complex (1). These family members consist of an Nterminal variable segment followed by three aminoterminal PDZ domains, an upstream SH3 domain and an inactive carboxyl-terminal guanylate kinase (GK) domain.</p> <p>The first and second PDZ domain localize NMDA receptors and K⁺ channels to synapses, and the third binds to neuroligins which are neuronal cell adhesion molecules that interact with b-neurexins and form intercellular junctions. PSD-95 also binds to neuronal nitric oxide synthase, possibly through interactions between PDZ domains present on both proteins (2). Thus different PDZ domains of PSD-95 might be specialized for distinct functions (3, 4).</p> <p>PSD95 participates in synaptic targeting of AMPA receptors through an indirect manner involving Stargazin and related transmembrane AMPA receptor regulatory proteins (TARPs) (5). The protein is implicated in experience dependent plasticity and plays an indispensable role in learning (6). Mutations in PSD95 are associated with autism (7).</p>
Uniprot ID:	P31016
NCBI:	NP_062567
GeneID:	29495
Host / Isotype:	Mouse / IgG2a
Recommended Isotype Controls:	AM03096PU-N
Clone:	7E3
Immunogen:	Recombinant rat PSD-95
Format:	State: Liquid purified Ig fraction. Purification: Protein G Chromatography. Buffer System: PBS pH 7.4 containing 0.09% Sodium Azide as preservative in 50% Glycerol.
Applications:	Immunofluorescence. Immunohistochemistry. Western blot: 1 µg/ml was sufficient for detection of PSD-95 on 20 µg rat brain tissue

extract.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

This antibody detects a ~100kDa protein corresponding to the apparent molecular mass of PSD-95 on SDS-PAGE immunoblots.

Additional cross-reactive bands are detected at ~80 kDa and 50 kDa in Rat and Mouse samples.

Species Reactivity: Tested: Mouse, Rat, Bovine, Human.

Storage:

Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. Chetkovich D.M., Bunn R.C., Kuo S.H., Kawasaki Y., Kohwi M., and Bret D.S. (2002) J Neurosci. 22(15): 6415-25.

2. Cao J., Viholainen J.I., Dart C., Warwick H.K., Levland M.L. and Courtney M.J. (2005) J Cell Biol. 168(1): 117-26.

3. Kennedy M. (1997) Trends in Neurosci. 6: 264-268.

4. Irie M. et al. (1997) Science 277(5331): 1511-5.

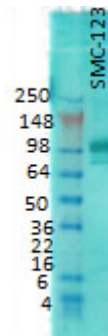
5. Cai C. et al. (2006) J Biol Chem. 281: 4267-73.

6. Yao W.D. et al. (2004) Neuron 41: 625-38.

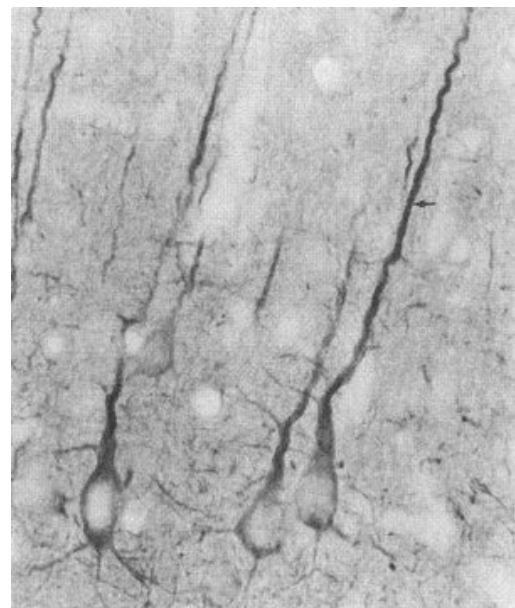
7. Cline H. (2005) Curr Biol. 15: R203-5.

Pictures:

Western blot analysis of PSD95 in rat membrane using a 1:1000 dilution of the antibody



ICC localization of Psd95 in rat neocortex.



PSD95 visualized using the antibody

