Product Information

PSD95 Monoclonal Antibody (Clone 6G6)

Item No. 10011435

Contents: This vial contains protein G affinity-purified IgG at a concentration of 1 mg/ml in PBS, pH 7.4, containing 0.09% sodium azide and 50% glycerol.
Synonym: Postsynaptic Density Protein 95
Antigen: Rat recombinant PSD95
Host: Mouse, clone 6G6
Isotype: IgG_{2a}
Cross Reactivity: (+) Mouse, rat and bovine PSD95. Detects an ~100 kDa protein corresponding to the apparent molecular mass of PSD95 on SDS-PAGE immunoblots. An additional protein greater than 100 kDa is also detected. Additional cross-reactive bands are detected at ~75 and 50 kDa in rat and mouse samples.
Stability: ≥1 year at -20°C
Applications: Western blot (WB) and immunocytochemistry. The recommended starting dilution for WB is 1.0 mg/ml. Optimal working dilutions for other applications should be determined empirically.

Postsynaptic Density protein 95 (PSD95), also known as synapse associated protein 90 kDa, 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 N-terminal variable segment followed by three amino-terminal PDZ domains, an upstream SH3 domain and an inactive carboxyl-terminal guanylate kinase (GK) domain. The first and second PDZ domains localize NMDA receptors and K^+ channels to synapses, and the third binds to neuroligins, which are neuronal cell adhesion molecules that interact with β-neurexins and form intercellular junctions. PSD95 also binds to neuronal nitric oxide synthase, possibly through interactions between PDZ domains present on both proteins.[2] Thus different PDZ domains of PSD95 might be specialized for distinct functions.[3,4]

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]

References

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4. Irie, M., Hata, Y., Takeuchi, M., *et al.* Binding of neuroligins to PSD95. *Science* **277**, 1511-1515 (1997).
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6. Yao, W.-D., Gainetdinov, R.R., Arbuckle, M.I., *et al.* Identification of PSD95 as a regulator of dopamine-mediated synaptic and behavioral plasticity. *Neuron* **41**, 625-638 (2004).
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