

# Product Information



## PSD95 Monoclonal Antibody (Clone 6G6)

Item No. 10011435

<b>Contents:</b>	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.
<b>Synonym:</b>	Postsynaptic Density Protein 95
<b>Antigen:</b>	Rat recombinant PSD95
<b>Host:</b>	Mouse, clone 6G6
<b>Isotype:</b>	IgG <sub>2a</sub>
<b>Cross Reactivity:</b>	(+) 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.
<b>Stability:</b>	≥1 year at -20°C
<b>Applications:</b>	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.<sup>1</sup> 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<sup>+</sup> 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.<sup>2</sup> Thus different PDZ domains of PSD95 might be specialized for distinct functions.<sup>3,4</sup>

PSD95 participates in synaptic targeting of AMPA receptors through an indirect manner involving Stargazin and related transmembrane AMPA receptor regulatory proteins (TARPs).<sup>5</sup> The protein is implicated in experience-dependent plasticity and plays an indispensable role in learning.<sup>6</sup> Mutations in PSD95 are associated with autism.<sup>7</sup>

### References

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3. Kennedy, M.B. The postsynaptic density at glutamatergic synapses. *Trends Neurosci.* **20(6)**, 264-268 (1997).
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).
7. Cline, H. Synaptogenesis: A balancing act between excitation and inhibition. *Curr. Biol.* **15**, R203-R205 (2005).

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**WARNING: THIS PRODUCT IS NOT FOR HUMAN OR ANIMAL DISEASE DIAGNOSIS OR THERAPEUTIC DRUG USE.**

#### MATERIAL SAFETY DATA

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