

Product Information

Monoclonal Anti-Post Synaptic Density (95 kDa) Protein (PSD95)

Clone 7E3-IB8 Purified Mouse Immunoglobulin

P246

Product Description

Monoclonal Anti-Post Synaptic Density (95 kDa) protein (PSD95) antibody (mouse isotype IgG2a) is produced by immunizing mice with purified recombinant rat PSD95 used as the immunogen.

This antibody reacts with both the recombinant and native rat PSD95 in immunoblotting, immunoprecipitation and immunofluorescence. In immunoblotting, a 95 kDa band is seen. In immunofluorescence on rat hippocampal cells, produces a staining pattern coincident with NMDA receptor staining at synaptic sites consistent with PSD95's proposed role in receptor clustering. Fixation with cold methanol is recommended.

Post Synaptic Density 95 kDa (PSD-95), also known as Synapse Associated Protein 90 kDa (SAP90), is one of a family of membrane-associated proteins found in the postsynaptic density in forebrain neurons and certain presynaptic structures in the cerebellum. Like other members of the family, PSD-95 has three 90 amino acid repeats called PDZ domains followed by an SH3 domain and a yeast guanylate kinase homology (GuK) domain.

PSD-95 is believed to participate in the clustering of certain proteins, including NMDA receptors, Shaker type potassium channels at the synaptic membrane in CNS neurons. There are two principal modes of interaction between PSD-95 and other proteins. NMDA receptors and Shaker-type potassium channels both share C-terminal sequence homology consisting of a threonine/serine-X-valine-COOH (tT/SXV) motif. Other neuronal proteins that share this motif (b1 adrenergic receptor, some serotonin receptors, some sodium channel subunits, and additional potassium channel subunits), and some of these proteins may interact with PSD-95 by binding to its PDZ domains. Neuronal nitric oxide synthase (nNOS), which lacks the tT/SXV motif but which has its own PDZ domain, has been shown to associate with PSD-95 in vitro through a pseudohomotypic PDZ-PDZ interaction.

Reagents

Monoclonal Anti-PSD95 antibody is supplied in phosphate buffered saline solution containing 0.05% sodium azide as a preservative.

Precautions and Disclaimer

Due to the Sodium azide content a Safety Data Sheet (SDS) for this product has been sent to the attention of the safety officer of your institution. Consult the SDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at -20 °C for up to one month. For extended storage, solution may be frozen in working aliquots. Storage in "frost-free" freezers is not recommended. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

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Product Profile

Recommended starting titers for Monoclonal Anti- PSD95 antibody are 1:2,000 for immunoblotting and 1:500 for immunofluorescence. However, optimal concentration is dependent on assay and should be determined by serial dilutions.

References

1. Hunt, C.A. et al. "PSD-95 is associated with the postsynaptic density and not with the presynaptic membrane at forebrain synapses." J. Neurosci. 16, 1380-1388 (1996).
2. Gomperts, S.N. "Clustering membrane proteins: It's all coming together with the PSD-95/SAP90 protein family." Cell 84, 659-662 (1996).
3. Kornau, H.C. et al. "Domain interaction between NMDA receptor subunits and the postsynaptic density protein PSD-95." Science 269, 1737-1740 (1995).

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