

Anti-PSD-95

Catalog# SMC-123C/D

Size: 25/100µg

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This product is for *in vitro* research use only and is not intended for use in humans or animals

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Product	Mouse anti-PSD-95, monoclonal antibody
Clone	7E3
Immunogen	Recombinant rat PSD-95
Host and Subclass	Mouse IgG _{2a}
Applications	WB
Specificity	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 cross-reactivity	Mouse, Rat, Bovine
Format	Mouse immunoglobulin in PBS pH 7.4, in 0.09% azide in 50% glycerol. Protein G purified.
Concentration and working dilution	1.0mg/mL; 1µg/ml was sufficient for detection of PSD-95 on 20µg rat brain tissue extract.
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

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).

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).

Selected References

1. Chetkovich D.M., Bunn R.C., Kuo S.H., Kawasaki Y., Kohwi M., and Bredt 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.

Scientific Background

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 N-terminal variable segment followed by three amino-terminal PDZ domains, an upstream SH3 domain and an inactive carboxyl-terminal guanylate kinase (GK) domain.

Certificate of Analysis

1 µg/mL of SMC-123 was sufficient for detection of PSD-95 in 20 µg of Rat brain tissue extract by ECL immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Material Safety Data Sheet

Anti-PSD-95, 7E3 (Monoclonal Antibody) SMC-123

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The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Azide	26628-22-8	0.09

Physical Data

This product consists of mouse immunoglobulin in PBS containing 0.09% azide in 50% glycerol shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

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