

# PSD-95 (N-18): sc-6926

## BACKGROUND

The *Drosophila* discs large (dlg) tumor suppressor gene was first identified in *Drosophila* through genetic analysis of germline mutations. Several mammalian homologs were subsequently identified and categorized into a protein family termed MAGUK (membrane-associated guanylate kinase homolog). Mammalian homologues of dlg include hdlg-1 (human dlg), SAP97 (rat dlg), and NE-dlg (neuronal and endocrine dlg). The rat synaptic protein PSD-95 (also designated SAP 90) also shares homology with these proteins. MAGUKs are localized at the membrane-cytoskeleton interface and contain several distinct domains which suggest a role for these proteins in intracellular signal transduction. Interaction of hdlg-1 and NE-dlg with the tumor suppressor protein APC suggest that MAGUK proteins may also play a role in regulation of growth.

## REFERENCES

1. Gateff, E., et al. 1989. Tumor-suppressor genes of *Drosophila melanogaster*. Crit. Rev. Oncog. 1: 221-245.
2. Cho, K.O., et al. 1992. The rat brain postsynaptic density fraction contains a homolog of the *Drosophila* discs-large tumor suppressor protein. Neuron 9: 929-942.
3. Stehle, T., et al. 1992. Refined structure of the complex between guanylate kinase and its substrate GMP at 2.0 Å resolution. J. Mol. Biol. 224: 1127-1141.

## CHROMOSOMAL LOCATION

Genetic locus: DLG4 (human) mapping to 17p13.1, DLG2 (human) mapping to 11q14.1; Dlg4 (mouse) mapping to 11 B3, Dlg2 (mouse) mapping to 7 E1.

## SOURCE

PSD-95 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PSD-95 of rat origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6926 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PSD-95 (N-18) is recommended for detection of PSD-95 and PSD-93 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PSD-95 (N-18) is also recommended for detection of PSD-95 and PSD-93 in additional species, including bovine and porcine.

Molecular Weight of PSD-95: 95 kDa.

Positive Controls: rat brain extract: sc-2392 or mouse brain extract: sc-2253.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## SELECT PRODUCT CITATIONS

1. Sabatini, D., et al. 1999. Interaction of RAFT1 with Gephyrin required for Rapamycin-sensitive signaling. Science 284: 1161-1164.
2. Manabe, T., et al. 2000. Regulation of long-term potentiation by H-Ras through NMDA receptor phosphorylation. J. Neurosci. 20: 2504-2511.
3. Khalili, K., et al. 2003. Purα is essential for postnatal brain development and developmentally coupled cellular proliferation as revealed by genetic inactivation in the mouse. Mol. Cell. Biol. 23: 6857-6875.
4. Miyamoto, Y., et al. 2005. Hippocampal synaptic modulation by the phosphotyrosine adapter protein ShcC/N-Shc via interaction with the NMDA receptor. J. Neurosci. 25: 1826-1835.
5. Glantz, L.A., et al. 2007. Synaptophysin and postsynaptic density protein 95 in the human prefrontal cortex from mid-gestation into early adulthood. Neuroscience 149: 582-591.
6. Babayan, A.H., et al. 2012. Integrin dynamics produce a delayed stage of long-term potentiation and memory consolidation. J. Neurosci. 32: 12854-12861.
7. Al Rahim, M. and Hossain, M.A. 2013. Genetic deletion of NP1 prevents hypoxic-ischemic neuronal death via reducing AMPA receptor synaptic localization in hippocampal neurons. J. Am. Heart Assoc. 2: e006098.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.


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Try **PSD-95 (7E3): sc-32290** or **PSD-95 (6G6): sc-32291**, our highly recommended monoclonal alternatives to PSD-95 (N-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PSD-95 (7E3): sc-32290**.