SANTA CRUZ BIOTECHNOLOGY, INC.

PSD-95 (7E3): sc-32290

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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). Human homologs of dlg include hdlg-1 (rat SAP 97) 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 suppresor protein APC suggest that MAGUK proteins may also play a role in regulation of growth.

CHROMOSOMAL LOCATION

Genetic locus: DLG4 (human) mapping to 17p13.1; Dlg4 (mouse) mapping to 11 B3.

SOURCE

PSD-95 (7E3) is a mouse monoclonal antibody raised against purified recombinant rat PSD-95.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PSD-95 (7E3) is available conjugated to agarose (sc-32290 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32290 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32290 PE), fluorescein (sc-32290 FITC), Alexa Fluor® 488 (sc-32290 AF488), Alexa Fluor® 546 (sc-32290 AF546), Alexa Fluor® 594 (sc-32290 AF594) or Alexa Fluor® 647 (sc-32290 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32290 AF680) or Alexa Fluor® 790 (sc-32290 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PSD-95 (7E3) is recommended for detection of PSD-95 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PSD-95 siRNA (h): sc-42010, PSD-95 siRNA (m): sc-42012, PSD-95 siRNA (r): sc-270159, PSD-95 shRNA Plasmid (h): sc-42010-SH, PSD-95 shRNA Plasmid (m): sc-42012-SH, PSD-95 shRNA Plasmid (r): sc-270159-SH, PSD-95 shRNA (h) Lentiviral Particles: sc-42010-V, PSD-95 shRNA (m) Lentiviral Particles: sc-42012-V and PSD-95 shRNA (r) Lentiviral Particles: sc-270159-V.

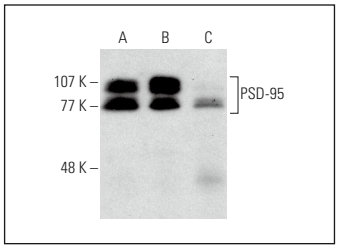
Molecular Weight of PSD-95: 95 kDa.

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

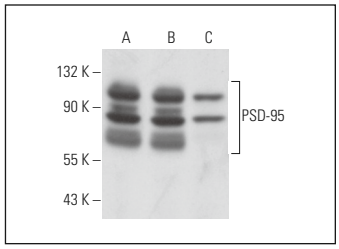
STORAGE

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

DATA



PSD-95 (7E3) HRP: sc-32290 HRP. Direct western blot analysis of PSD-95 expression in mouse brain (**A**), rat brain (**B**) and rat hippocampus (**C**) tissue extracts.



PSD-95 (7E3): sc-32290. Western blot analysis of PSD-95 expression in mouse brain (**A**), rat hippocampus (**B**) and human cerebral cortex (**C**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Kam, A.Y., et al. 2010. Morphine induces AMPA receptor internalization in primary hippocampal neurons via calcineurin-dependent dephosphorylation of GluR1 subunits. J. Neurosci. 30: 15304-15316.
2. Yan, J.Z., et al. 2011. Protein kinase C promotes N-methyl-D-aspartate (NMDA) receptor trafficking by indirectly triggering calcium/calmodulin-dependent protein kinase II (CaMKII) autophosphorylation. J. Biol. Chem. 286: 25187-25200.
3. Tsai, N.P., et al. 2012. Multiple autism-linked genes mediate synapse elimination via proteasomal degradation of a synaptic scaffold PSD-95. Cell 151: 1581-1594.
4. Barak, S., et al. 2013. Disruption of alcohol-related memories by mTORC1 inhibition prevents relapse. Nat. Neurosci. 16: 1111-1117.
5. Liao, X.M., et al. 2014. Blockade of corticotropin-releasing hormone receptor 1 attenuates early-life stress-induced synaptic abnormalities in the neonatal hippocampus. Hippocampus 24: 528-540.
6. Marathe, S., et al. 2015. Notch signaling in response to excitotoxicity induces neurodegeneration via erroneous cell cycle reentry. Cell Death Differ. 22: 1775-1784.
7. Makani, V., et al. 2016. BBB-permeable, neuroprotective, and neurotrophic polysaccharide, midi-GAGR. PLoS ONE 11: e0149715.
8. Li, J., et al. 2017. Differential behavioral and neurobiological effects of chronic corticosterone treatment in adolescent and adult rats. Front. Mol. Neurosci. 10: 25.
9. Nikhil, K. and Shah, K. 2017. The Cdk5-Mcl-1 axis promotes mitochondrial dysfunction and neurodegeneration in a model of Alzheimer's disease. J. Cell Sci. 130: 3023-3039.

RESEARCH USE

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