abcam

Product datasheet

Anti-PSD93 antibody ab2930

6 References 3 Images

Overview

Product name	Anti-PSD93 antibody
Description	Rabbit polyclonal to PSD93
Host species	Rabbit
Specificity	Detects Post Synaptic Density 93 (PSD 93) from rat tissues. This antibody does not detect other synapse-associated protein family members.
Tested applications	**Suitable for:** IHC-Fr, WB, ICC/IF
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide corresponding to Rat PSD93 aa 352-366. Sequence: NKLCDKPASPRHYSP (Peptide available as **ab5840**) Run BLAST with Run BLAST with
Positive control	IHC-Fr: Rat cerebellum. WB: SH-SY5Y and Neuro-2a cell lysate.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: 0.1% BSA, 99% PBS
Purity	Immunogen affinity purified
Primary antibody notes	Post Synaptic Density 93 (PSD 93), also known as chapsyn-110, is one of a family of plasma

membrane-associated proteins found in synaptic junctions. PSD 93 is unique among family members in its expression in Purkinje neuron cell bodies and dendrites. PSD 93 has three ~90 amino acid repeats called PDZ domains, a single interior SH3 domain, and a carboxyl-terminal guanylate kinase homology (GuK) domain that is enzymatically inactive. It is hypothesized that PDZ-domain interactions play a role in receptor and channel clustering which contributes to neuronal plasticity. PSD 93 is believed to participate in the clustering of certain proteins, including N-methyl-D-aspartate (NMDA) receptors and shaker-type potassium channels at the synaptic membrane. There are two principal modes of interaction between PSD 93 and other proteins. NMDA receptors and shaker-type potassium channels both share C-terminal sequence homology consisting of a threonine/serine-X-valine-COOH (T/SXV) motif. Other neuronal proteins that share this motif (beta 1 adrenergic receptor, some serotonin receptors, some sodium channel subunits, and additional potassium channel subunits) may interact with PSD 93 by binding to its PDZ domains. Neuronal nitric oxide synthase (nNOS), which lacks the T/SXV motif but which has its own PDZ domain, has been shown to associate with PSD 93 in vitro through a pseudo-homotypic PDZ-PDZ interaction.

Clonality Polyclonal

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab2930 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-Fr		Use a concentration of 5 µg/ml.
WB		Use a concentration of 3 µg/ml. Detects a band of approximately 110 kDa.Can be blocked with **PSD93 peptide (ab5840)**.
ICC/IF		Use a concentration of 1 µg/ml.

Target

Function Required for perception of chronic pain through NMDA receptor signaling. Regulates surface expression of NMDA receptors in dorsal horn neurons of the spinal cord. Interacts with the cytoplasmic tail of NMDA receptor subunits as well as inward rectifying potassium channels. Involved in regulation of synaptic stability at cholinergic synapses. Part of the postsynaptic protein scaffold of excitatory synapses.

Sequence similarities Belongs to the MAGUK family.
Contains 1 guanylate kinase-like domain.
Contains 3 PDZ (DHR) domains.
Contains 1 SH3 domain.

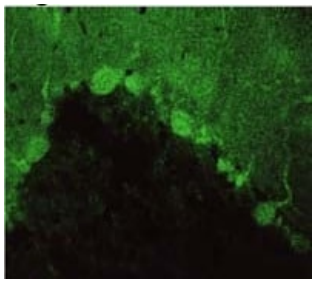
Domain An N-terminally truncated L27 domain is predicted in isoform 2 at positions 1 through 27.

Post-translational modifications Palmitoylation of isoform 1 is not required for targeting to postsynaptic density.

Cellular localization Cell membrane. Cell junction, synapse, postsynaptic cell membrane, postsynaptic density. Cell

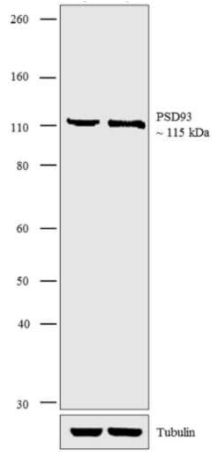
junction, synapse. Membrane. Cell projection, axon. Concentrated in soma and postsynaptic density of a subset of neurons.

Images



Immunohistochemistry (Frozen sections) - Anti-PSD93 antibody (ab2930)

Immunolocalization of PSD-93 in rat cerebellum using ab2930.



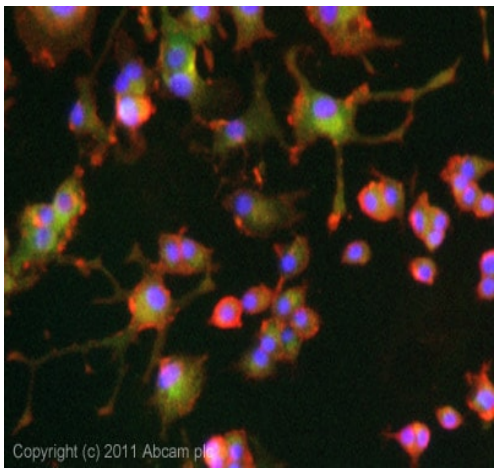
Western blot - Anti-PSD93 antibody (ab2930)

All lanes : Anti-PSD93 antibody (ab2930) at 3 µg/ml

Lane 1 : SH-SY5Y (human neuroblastoma cell line) whole cell lysate
Lane 2 : Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate

Lysates/proteins at 30 µg per lane.

Secondary
All lanes : Goat anti-Rabbit IgG (H+L) Superclonal Secondary Antibody, HRP conjugate at 1/4000 dilution



Immunocytochemistry/ Immunofluorescence - Anti-PSD93 antibody (ab2930)

ICC/IF image of ab2930 stained PC12 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab2930, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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