


# Anti-PSD95 antibody - Synaptic Marker ab18258

★★★★★ [39 Abreviews](#) [315 References](#) [9 Images](#)

## Overview

<b>Product name</b>	Anti-PSD95 antibody - Synaptic Marker
<b>Description</b>	Rabbit polyclonal to PSD95 - Synaptic Marker
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, WB, IHC-P
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human <b>Predicted to work with:</b> Zebrafish, Cynomolgus monkey, Common marmoset 
<b>Immunogen</b>	Synthetic peptide corresponding to Mouse PSD95 aa 50-150 (internal sequence) conjugated to keyhole limpet haemocyanin (Cysteine residue). (Peptide available as <a href="#">ab18661</a> )
<b>Positive control</b>	WB: Mouse & rat brain tissue lysate, SHSY5Y whole cell lysate . ICC/IF: SH-SY5Y cells , Primary hippocampal rat neurons/glia, (obtained from Neuromics, cat. no. PC35101), DIV14. IHC-P: Mouse & rat brain.
<b>General notes</b>	<p>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.</p> <p>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&amp;As</p>

## Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	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.
<b>Storage buffer</b>	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS  Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.

<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

## Applications

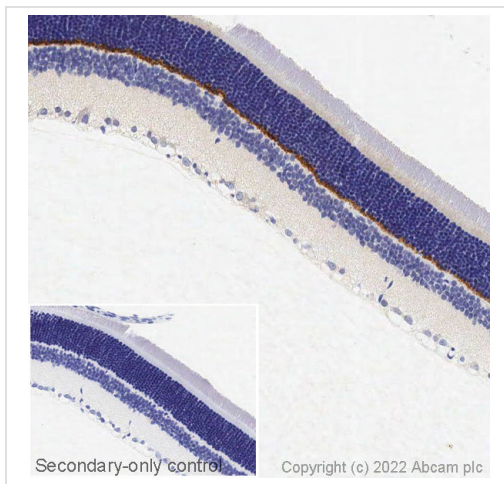
**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab18258 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★★ (5)	Use a concentration of 1 - 5 µg/ml.
WB	★★★★★ (14)	Use a concentration of 1 - 3 µg/ml. Detects a band of approximately 85 kDa (predicted molecular weight: 80 kDa). Abcam recommends using 3% milk as the blocking agent.
IHC-P	★★★★★ (7)	Use at an assay dependent concentration.

## Target

<b>Function</b>	Interacts with the cytoplasmic tail of NMDA receptor subunits and shaker-type potassium channels. Required for synaptic plasticity associated with NMDA receptor signaling. Overexpression or depletion of DLG4 changes the ratio of excitatory to inhibitory synapses in hippocampal neurons. May reduce the amplitude of ASIC3 acid-evoked currents by retaining the channel intracellularly. May regulate the intracellular trafficking of ADR1B.
<b>Tissue specificity</b>	Brain.
<b>Sequence similarities</b>	Belongs to the MAGUK family. Contains 1 guanylate kinase-like domain. Contains 3 PDZ (DHR) domains. Contains 1 SH3 domain.
<b>Domain</b>	The PDZ domain 3 mediates interaction with ADR1B. The L27 domain near the N-terminus of isoform 2 is required for HGS/HRS-dependent targeting to postsynaptic density.
<b>Post-translational modifications</b>	Palmitoylation of isoform 1 is required for targeting to postsynaptic density.
<b>Cellular localization</b>	Cell membrane. Cell junction, synapse, postsynaptic cell membrane, postsynaptic density. Cell projection, axon. Cell junction, synapse. High levels in postsynaptic density of neurons in the forebrain. Also in presynaptic region of inhibitory synapses formed by cerebellar basket cells on axon hillocks of Purkinje cells.

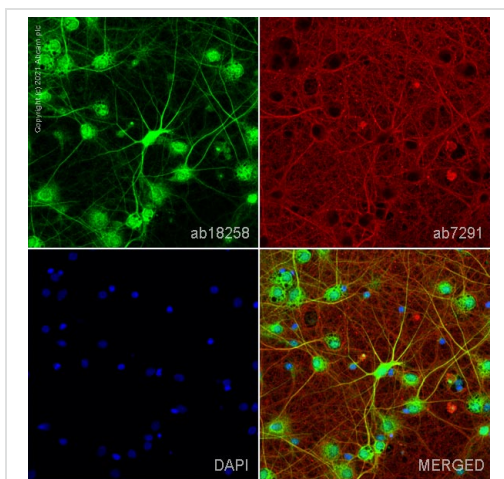
## Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSD95 antibody - Synaptic Marker (ab18258)

IHC image of PSD95 staining in a section of formalin-fixed paraffin-embedded normal rat eye performed on a Leica BOND™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab18258, 1ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

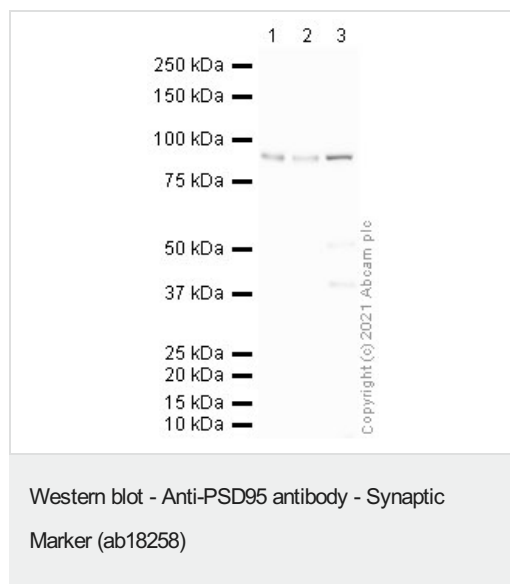


Immunocytochemistry/ Immunofluorescence - Anti-PSD95 antibody - Synaptic Marker (ab18258)

ab18258 staining PSD95 in primary hippocampal rat neurons/glia, (obtained from Neuromics, cat. no. PC35101), DIV14. cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab18258 at 5µg/ml and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Also suitable in cells fixed with 4% paraformaldehyde (10 min).

Image was acquired with a confocal microscope (Leica-Microsystems TCS SP8) and a single confocal section is shown.



**All lanes :** Anti-PSD95 antibody - Synaptic Marker (ab18258) at 1 µg/ml

**Lane 1 :** Mouse brain tissue lysate at 10 µg

**Lane 2 :** Human brain tissue lysate at 20 µg

**Lane 3 :** SHSY5Y whole cell lysate at 20 µg

### Secondary

**All lanes :** Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/50000 dilution

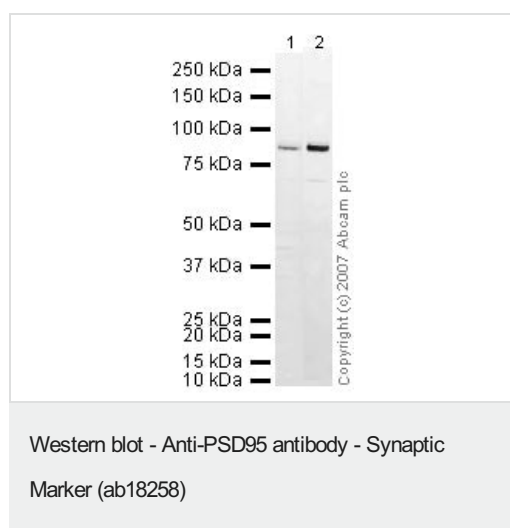
**Predicted band size:** 80 kDa

**Observed band size:** 85 kDa

**Exposure time:** 8 minutes

Gel type: MOPS

Blocking buffer: 1% milk



**All lanes :** Anti-PSD95 antibody - Synaptic Marker (ab18258) at 1 µg/ml

**Lane 1 :** Brain (Mouse) Tissue Lysate ([ab27253](#))

**Lane 2 :** Brain (Rat) Tissue Lysate ([ab7942](#))

Lysates/proteins at 10 µg per lane.

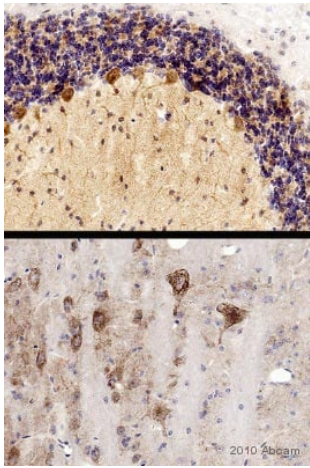
### Secondary

**All lanes :** Rabbit IgG secondary antibody ([ab28446](#)) at 1/10000 dilution

Performed under reducing conditions.

**Predicted band size:** 80 kDa

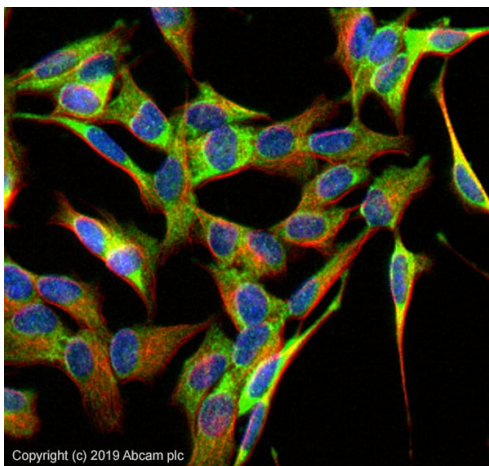
**Observed band size:** 85 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSD95 antibody - Synaptic Marker (ab18258)

This image is courtesy of an abreview submitted by Carl Hobbs, King's College London, United Kingdom

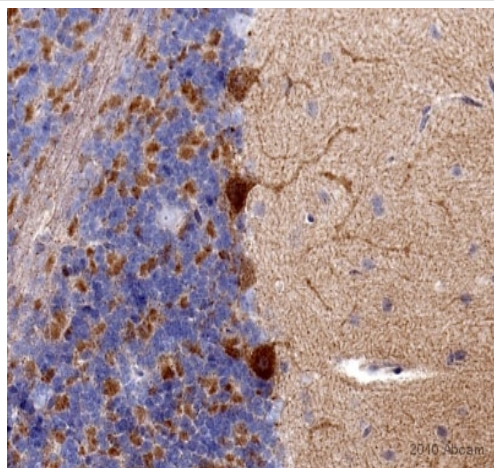
ab18258 (1/500) staining PSD95 in paraffin-embedded mouse cerebellum (top) and medulla (bottom) tissue, showing positive staining to the synaptic regions of the brain. Tissue was fixed in formaldehyde, blocking performed using 1% BSA (10 minutes/RT) and heat mediated antigen retrieval performed before staining. The secondary antibody (1/200) was goat anti rabbit IgG conjugated to Biotin. For further experimental details, please refer to abreview.



Immunocytochemistry/ Immunofluorescence - Anti-PSD95 antibody - Synaptic Marker (ab18258)

ab18258 staining PSD95 in SH-SY5Y cells. The cells were fixed with 100% methanol (5 min) at room temperature, permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with the antibody ab18258 at 5µg/ml and **ab7291** (Mouse monoclonal to alpha Tubulin - Loading Control) used at a 1/1000 dilution overnight at +4°C. The secondary antibodies were **ab150081**, Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed, (pseudo-colored green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594) preadsorbed, (colored red), both used at a 1/1000 dilution for 1 hour at room temperature. DAPI was used to stain the cell nuclei (colored blue) at a concentration of 1.43 µM for 1 hour at room temperature.

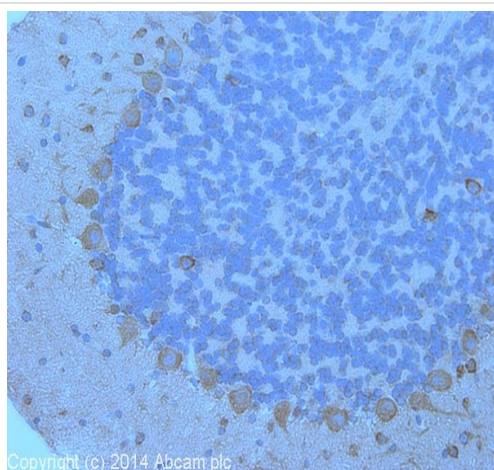




Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSD95 antibody -  
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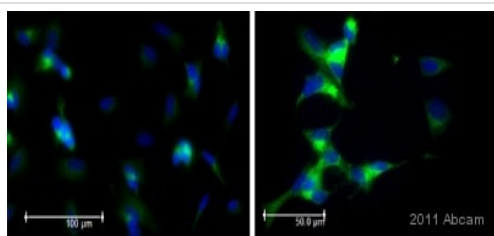
ab18258 (1/1000) staining PSD9 in paraffin-embedded rat cerebellum. Tissue was fixed in formaldehyde, blocking performed using 1% BSA (10 minutes/RT) and heat mediated antigen retrieval performed before staining. The secondary antibody (1/200) was goat anti rabbit IgG conjugated to Biotin. For further experimental details, please refer to abreview.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSD95 antibody -  
Synaptic Marker (ab18258)

IHC image of PSD95 staining in mouse brain formalin fixed paraffin embedded tissue section, performed on a Leica Bond system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 minutes. The section was then incubated with ab18258, 1 µg/ml, for 15 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry/ Immunofluorescence - Anti-PSD95 antibody - Synaptic Marker (ab18258)

Image courtesy of an anonymous Abreview.

ab18258 staining PSD95 in human SH-SY5Y cells by Immunocytochemistry/ Immunofluorescence. Cells were fixed in paraformaldehyde, blocked with 10% serum for 20 minutes at 24°C, then incubated with ab18258 at a 1/1000 dilution for 16 hours at 4°C. The secondary used was an Alexa-Fluor® 488 conjugated donkey anti-rabbit polyclonal used at a 1/1000 dilution. Counterstained with Hoechst 33258 (blue).

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