

Product datasheet

Anti-PSD95 antibody ab18258

★★★★☆ 37 Abreviews 137 References 13 Images

Overview

Product name	Anti-PSD95 antibody
Description	Rabbit polyclonal to PSD95
Host species	Rabbit
Tested applications	Suitable for: IHC-FoFr, ICC/IF, WB, IHC-P, ICC, IHC-Fr, Sandwich ELISA, IP
Species reactivity	Reacts with: Mouse, Rat, Human, Zebrafish, Cynomolgus monkey, Common marmoset
Immunogen	Synthetic peptide corresponding to Mouse PSD95 aa 50-150 (internal sequence) conjugated to keyhole limpet haemocyanin (Cysteine residue). (Peptide available as ab18661)
Positive control	WB: Mouse and rat brain lysates. ICC/IF: Zebrafish retina (inner plexiform layer) tissue, SHSY5Y cell line
General notes	

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: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

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
IHC-FoFr		Use at an assay dependent concentration. PubMed: 20874778
ICC/IF	★★★★☆	Use a concentration of 1 µg/ml.
WB	★★★★☆	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	★★★★★	Use at an assay dependent concentration.
ICC	★★★★★	Use at an assay dependent concentration.
IHC-Fr	★★★★★	1/1000. PubMed: 17959791
Sandwich ELISA		Use at an assay dependent concentration. PubMed: 20169337 Used as detection antibody.
IP	★★★★★	Use at an assay dependent concentration.

Target

Function

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.

Tissue specificity

Brain.

Sequence similarities

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

Domain

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.

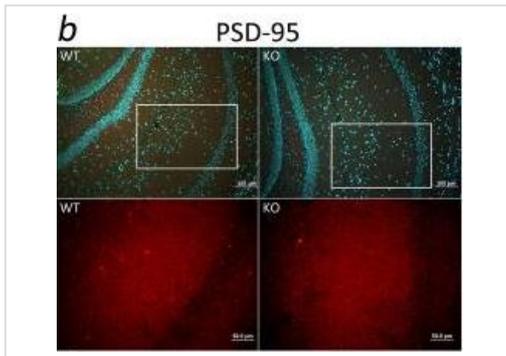
Post-translational modifications

Palmitoylation of isoform 1 is required for targeting to postsynaptic density.

Cellular localization

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 - Anti-PSD95 antibody (ab18258)

Arora, K. et al PLoS One. 2017 May 18;12(5):e0177156. doi: 10.1371/journal.pone.0177156. eCollection 2017. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>

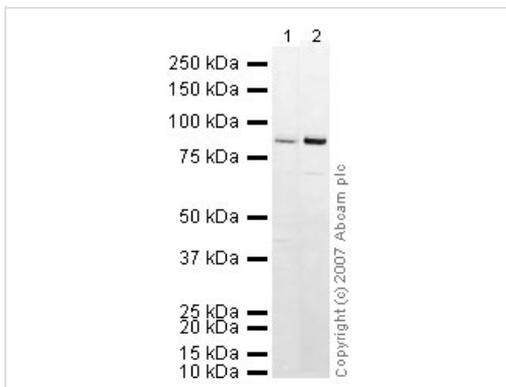
Immunohistochemical analysis in the CA1 region of hippocampus

Expression of PSD-95 was investigated in TCbIR/CD320 KO mice. PSD-95 expression remained the same in both the KO (n = 2) and in the WT (n = 2) mouse.

The lower panel shows a magnified image of the indicated region.

PSD-95 was detected with ab18258 at 1/100 dilution.

(After Figure 7 of Arora et al).



Western blot - Anti-PSD95 antibody (ab18258)

All lanes : Anti-PSD95 antibody (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

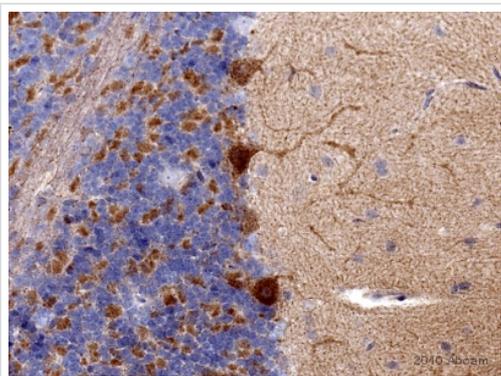
All lanes : Rabbit IgG secondary antibody (ab28446) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 80 kDa

Observed band size: 85 kDa

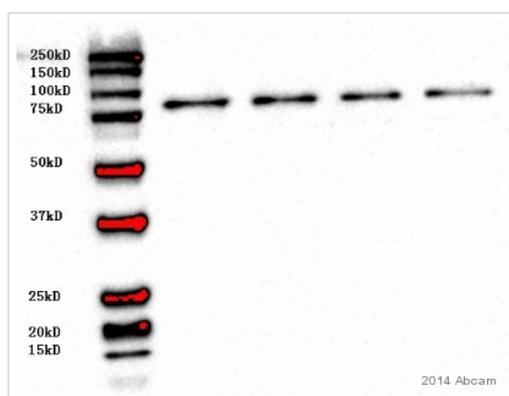
[why is the actual band size different from the predicted?](#)



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

(ab18258)

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



Western blot - Anti-PSD95 antibody (ab18258)

This image is courtesy of an anonymous Abreview

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.

All lanes : Anti-PSD95 antibody (ab18258) at 1/350 dilution

All lanes : Marmoset (common) brain whole tissue lysate

Lysates/proteins at 25 µg per lane.

Secondary

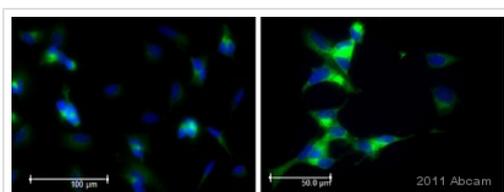
All lanes : HRP-conjugated goat anti-rabbit IgG polyclonal at 1/12000 dilution

Performed under reducing conditions.

Predicted band size: 80 kDa

Observed band size: 80 kDa

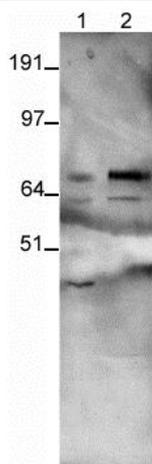
Exposure time: 16 seconds



Immunocytochemistry/ Immunofluorescence - Anti-PSD95 antibody (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).



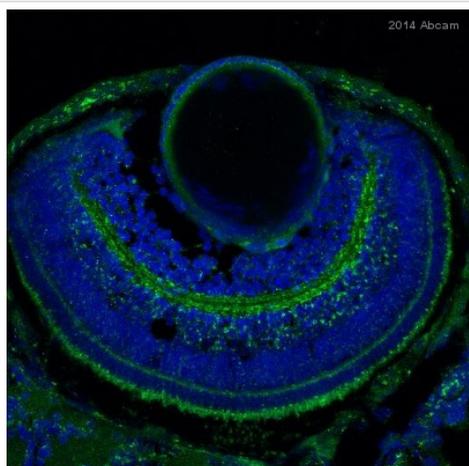
Immunoprecipitation - Anti-PSD95 antibody
(ab18258)

This image is courtesy of Chris Anderson, Wellcome Trust Sanger Institute, United Kingdom

Lane 1 - Input lane 500 µg mouse brain lysate

Lane 2 - IP lane 50 µg mouse brain lysate

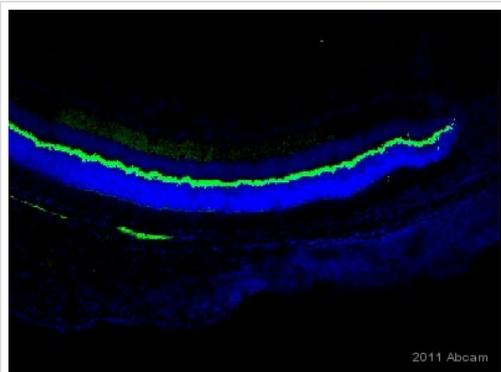
NB: as expected, an enrichment of PSD95 protein is observed in the IP lane.



Immunohistochemistry (Frozen sections) - Anti-PSD95 antibody (ab18258)

This image is courtesy of an Abreview submitted by Ryan MacDonald

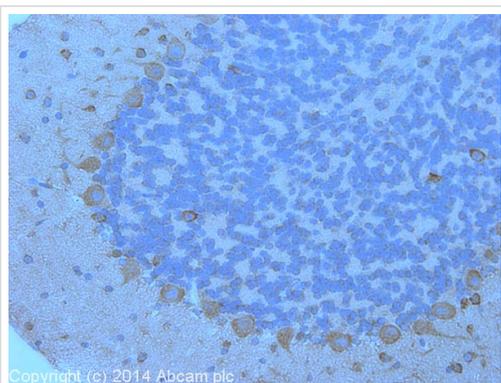
ab18258 staining PSD95 in zebrafish retina (inner plexiform layer) tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with paraformaldehyde, permeabilized with Triton X-100 and blocked with 5% BSA for 1 hour at 23°C. Sodium citrate antigen retrieval was used. Samples were incubated with primary antibody (1/100) for 16 hours at 4°C. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG polyclonal (1/1000) was used as the secondary antibody.



Immunohistochemistry (Frozen sections) - Anti-PSD95 antibody (ab18258)

Image courtesy of an anonymous Abreview.

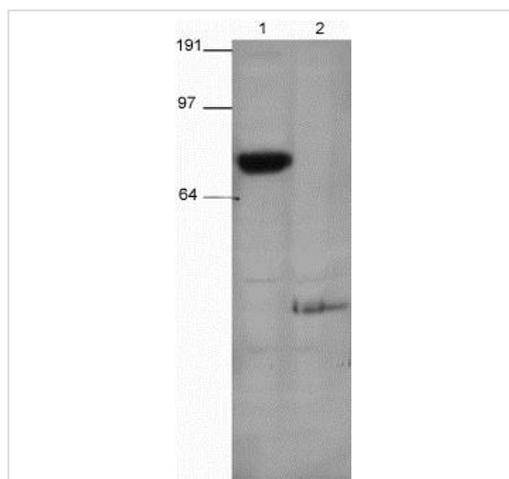
ab18258 staining PSD95 in murine retinal tissue by Immunohistochemistry (Frozen sections). Tissue was fixed with paraformaldehyde, blocked using 10% serum for 30 minutes at 24°C, then incubated with ab18258 at a 1/1000 dilution for 16 hours at 4°C. The secondary used was an Alexa Fluor® 488 conjugated goat anti-rabbit polyclonal used at a 1/1000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSD95 antibody (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.



Western blot - Anti-PSD95 antibody (ab18258)

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

Lane 1 : wildtype mouse brain tissue lysate

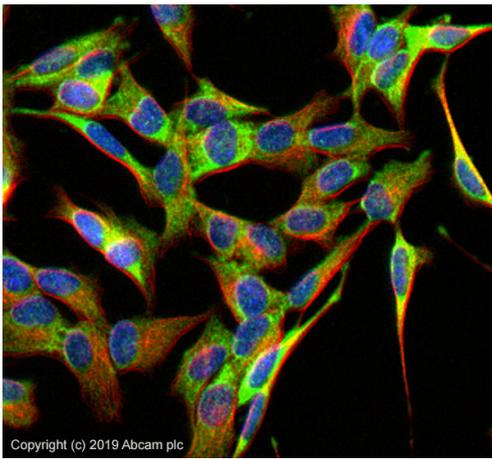
Lane 2 : PSD95 knockout mouse brain tissue lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 80 kDa

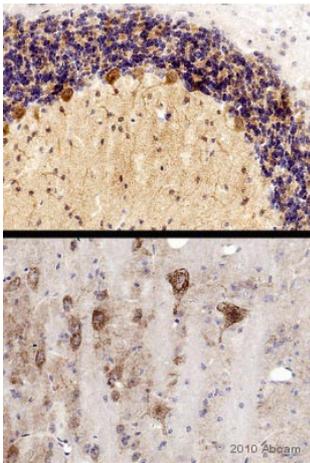
Observed band size: ~80 kDa [why is the actual band size different from the predicted?](#)



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Immunocytochemistry/ Immunofluorescence - Anti-PSD95 antibody (ab18258)

ab18258 staining PSD95 in SHSY5Y 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.

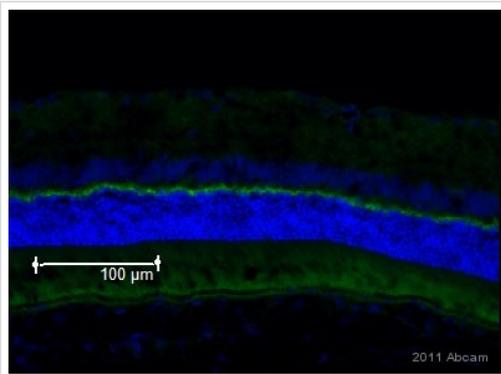


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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSD95 antibody (ab18258)

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.



Immunohistochemistry (Frozen sections) - Anti-PSD95 antibody (ab18258)

Image courtesy of an anonymous Abreview.

ab18258 staining PSD95 in rat retinal tissue by Immunohistochemistry (Frozen sections). Tissue was fixed with paraformaldehyde, blocked using 10% serum for 30 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 goat anti-rabbit polyclonal used at a 1/1000 dilution.

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