

## Product datasheet

# Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker ab238135

**KO VALIDATED** Recombinant RabMAB

★★★★★ [4 Abreviews](#) [15 References](#) [9 Images](#)

### Overview

<b>Product name</b>	Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker
<b>Description</b>	Rabbit monoclonal [EPR23124-118] to PSD95 - Synaptic Marker
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P, IHC-Fr, IP <b>Unsuitable for:</b> ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	WB: Mouse brain, Mouse cerebellum, Rat brain, Human cerebellum and Human brain lysates. IHC-P: Mouse cerebellum and Rat retina tissues. IP: Mouse brain lysate. IHC-Fr: Mouse and rat retina tissue.
<b>General notes</b>	Our RabMAB <sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAB<sup>®</sup> patents</a> .

### 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 long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR23124-118
<b>Isotype</b>	IgG

### Applications

## The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab238135 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
WB	★★★★★ (2)	1/2000. Predicted molecular weight: 80 kDa.
IHC-P	★★★★★ (2)	1/100.
IHC-Fr		1/100.
IP		1/30.

## Application notes

Is unsuitable for ICC/IF.

## 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.

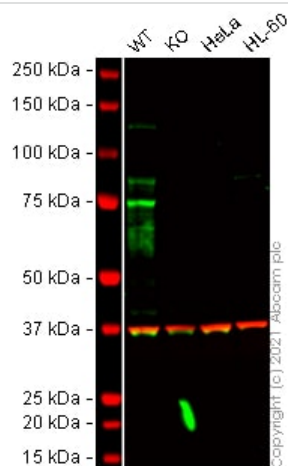
### Post-translational modifications

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



Western blot - Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

**All lanes** : Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135) at 1/2000 dilution

**Lane 1** : Wild-type SH-SY5Y cell lysate

**Lane 2** : DLG4 knockout SH-SY5Y cell lysate

**Lane 3** : HeLa cell lysate

**Lane 4** : HL-60 cell lysate

Lysates/proteins at 20 µg per lane.

### Secondary

**All lanes** : Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) at 1/20000 dilution

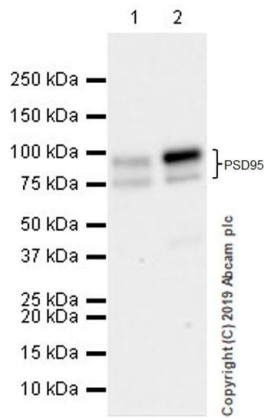
Performed under reducing conditions.

**Predicted band size:** 80 kDa

**Observed band size:** 75 kDa

**Lanes 1 - 4:** Merged signal (red and green). Green - ab238135 observed at 75 kDa. Red - loading control **ab8245** (Mouse anti-GAPDH antibody [6C5]) observed at 37 kDa.

ab238135 was shown to react with PSD95 in wild-type SH-SY5Y cells in Western blot with loss of signal observed in DLG4 knockout cell line **ab280043** (DLG4 knockout cell lysate **ab280102**). Wild-type SH-SY5Y and DLG4 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab238135 and **ab8245** (Mouse anti-GAPDH antibody [6C5]) overnight at 4 °C at a 1 in 2000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.



Western blot - Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

**All lanes :** Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135) at 1/2000 dilution

**Lane 1 :** Human cerebellum lysate

**Lane 2 :** Human brain lysate

Lysates/proteins at 20 µg per lane.

**Secondary**

**All lanes :** VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)) at 1/1000 dilution

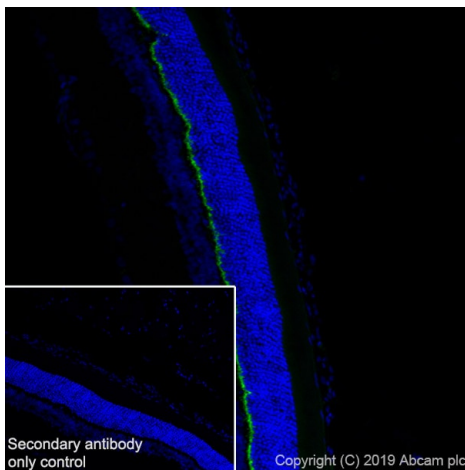
**Predicted band size:** 80 kDa

**Observed band size:** 100,75 kDa

Blocking and diluting buffer and concentration: 5% NFD/MTBST

The molecular weight observed is consistent with what has been described in the literature (PMID: 20118925)

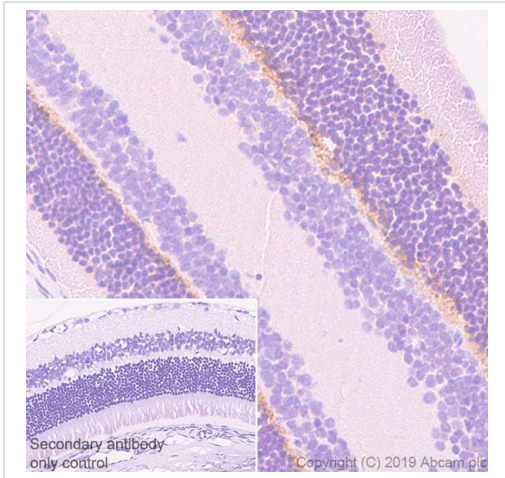
Exposure time: 48 seconds



Immunohistochemistry (Frozen sections) - Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

Immunohistochemical analysis of 4% PFA fixed 0.2% Triton X-100 permeabilized frozen Rat retina tissue labeling VSIG4 with ab238135 at 1/100 dilution followed by [ab150077](#) AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 dilution. The nuclear counterstain was DAPI (Blue). Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody was [ab150077](#) AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 dilution.

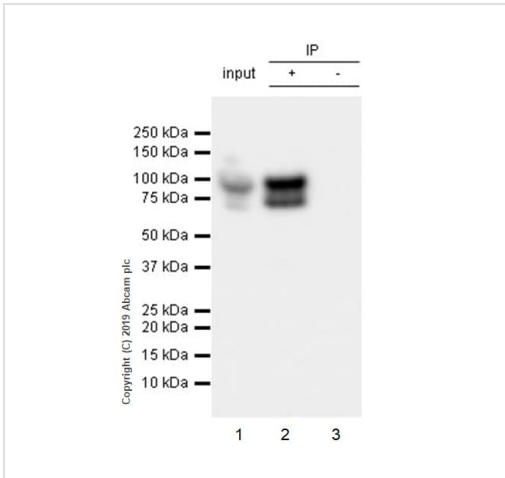


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

Immunohistochemical analysis of paraffin-embedded Rat retina tissue labeling PSD95 with ab238135 at 1/500 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on outer plexiform layer of rat retina is observed. The section was incubated with ab238135 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20mins.



Immunoprecipitation - Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

PSD95 was immunoprecipitated from 0.35 mg Mouse brain lysate with ab238135 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab238135 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used at 1/5000 dilution.

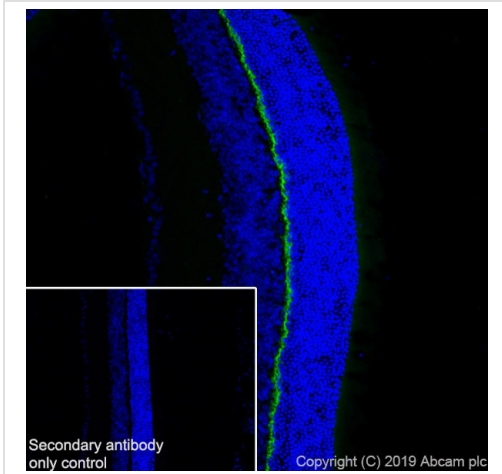
**Lane 1:** Mouse brain lysate 10µg

**Lane 2:** ab238135 IP in Mouse brain lysate

**Lane 3:** Rabbit monoclonal IgG (**ab172730**) instead of ab238135 in Mouse brain lysate

**Blocking and dilution buffer and concentration:** 5% NFDM/TBST.

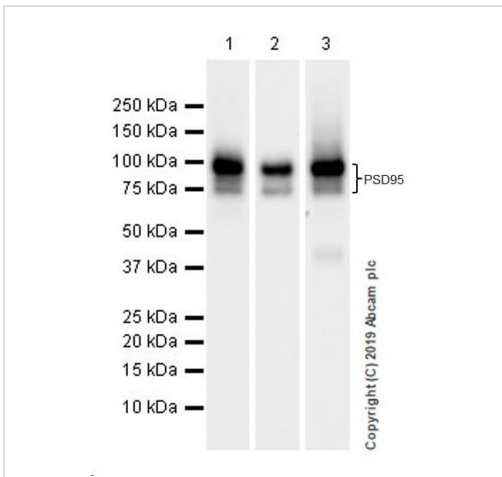
**Exposure time:** 3 seconds.



Immunohistochemistry (Frozen sections) - Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

Immunohistochemical analysis of 4% PFA fixed 0.2% Triton X-100 permeabilized frozen Mouse retina tissue labeling VSIG4 with ab238135 at 1/100 (5.76 µg/ml) dilution followed by **ab150077** AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 (2 µg/ml) dilution. The nuclear counterstain was DAPI (Blue). Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody was **ab150077** AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 (2 µg/ml) dilution.



Western blot - Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

**All lanes** : Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135) at 1/2000 dilution

**Lane 1** : Mouse brain lysate

**Lane 2** : Mouse cerebellum lysate

**Lane 3** : Rat brain lysate

Lysates/proteins at 20 µg per lane.

**Secondary**

**All lanes** : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

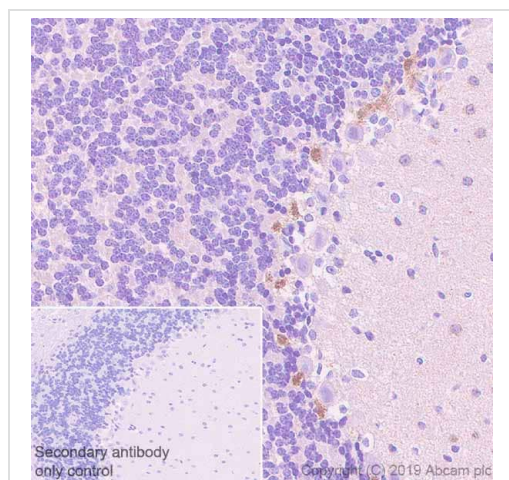
**Predicted band size:** 80 kDa

**Observed band size:** 100,75 kDa

Blocking and diluting buffer and concentration: 5% NFDm/TBST

The molecular weight observed is consistent with what has been described in the literature (PMID: 20118925).

Exposure time: 15 seconds






Immunohistochemical analysis of paraffin-embedded Mouse cerebellum tissue labeling PSD95 with ab238135 at 1/100 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on basket cells of mouse cerebellum is observed. The section was incubated with ab238135 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20mins.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

Why choose a recombinant antibody?

 <p><b>Research with confidence</b> Consistent and reproducible results</p>	 <p><b>Long-term and scalable supply</b> Recombinant technology</p>
 <p><b>Success from the first experiment</b> Confirmed specificity</p>	 <p><b>Ethical standards compliant</b> Animal-free production</p>

Anti-PSD95 antibody [EPR23124-118] - Synaptic Marker (ab238135)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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