


## Product datasheet

### Anti-Gephyrin antibody [EPR12650] ab181382

KO VALIDATED Recombinant RabMAb

★★★★★ [3 Abreviews](#) [1 References](#) [6 Images](#)

#### Overview

Product name	Anti-Gephyrin antibody [EPR12650]
Description	Rabbit monoclonal [EPR12650] to Gephyrin
Host species	Rabbit
Specificity	The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.
Tested applications	<b>Suitable for:</b> IHC-P, WB <b>Unsuitable for:</b> ICC/IF
Species reactivity	<b>Reacts with:</b> Mouse, Rat, Human <b>Predicted to work with:</b> Chicken, Cow, Dog, Pig, Zebrafish, Rhesus monkey, Xenopus tropicalis 
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HEK-293, Mouse heart, Fetal brain, SH-SY5Y, Neuro-2a, HAP1, MCF7, U2OS, and C6 lysates; IHC-P: Human kidney and brain tissue.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> For more information <a href="#">see here</a> . 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

Form	Liquid
Storage instructions	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.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA

<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR12650
<b>Isotype</b>	IgG

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab181382 in the following tested applications.

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

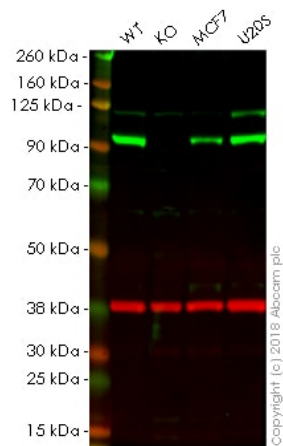
Application	Abreviews	Notes
<b>IHC-P</b>	★★★★★ (3)	1/100 - 1/250. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. See <b>IHC antigen retrieval protocols</b> .  The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.
<b>WB</b>		1/1000 - 1/5000. Detects a band of approximately 93 kDa (predicted molecular weight: 80 kDa).

**Application notes** Is unsuitable for ICC/IF.

## Target

<b>Function</b>	Microtubule-associated protein involved in membrane protein-cytoskeleton interactions. It is thought to anchor the inhibitory glycine receptor (GLYR) to subsynaptic microtubules (By similarity). Catalyzes two steps in the biosynthesis of the molybdenum cofactor. In the first step, molybdopterin is adenylated. Subsequently, molybdate is inserted into adenylated molybdopterin and AMP is released.
<b>Pathway</b>	Cofactor biosynthesis; molybdopterin biosynthesis.
<b>Involvement in disease</b>	Defects in GPHN are the cause of molybdenum cofactor deficiency type C (MOCOD type C) [MIM:252150]. MOCOD type C is an autosomal recessive disease which leads to the pleiotropic loss of all molybdoenzyme activities and is characterized by severe neurological damage, neonatal seizures and early childhood death.  Defects in GPHN are a cause of startle disease (STHE) [MIM:149400]; also known as hyperekplexia. STHE is a genetically heterogeneous neurologic disorder characterized by muscular rigidity of central nervous system origin, particularly in the neonatal period, and by an exaggerated startle response to unexpected acoustic or tactile stimuli.
<b>Sequence similarities</b>	In the N-terminal section; belongs to the moaB/mog family. In the C-terminal section; belongs to the moeA family.
<b>Cellular localization</b>	Cell junction > synapse. Cell junction > synapse > postsynaptic cell membrane. Cytoplasm > cytoskeleton. Cytoplasmic face of glycinergic postsynaptic membranes.

## Images



Western blot - Anti-Gephyrin antibody [EPR12650]  
(ab181382)

**All lanes :** Anti-Gephyrin antibody [EPR12650] (ab181382) at 1 µg/ml (unpurified)

**Lane 1 :** Wild-type HAP1 whole cell lysate

**Lane 2 :** GPHN (Gephyrin) knockout HAP1 whole cell lysate

**Lane 3 :** MCF7 whole cell lysate

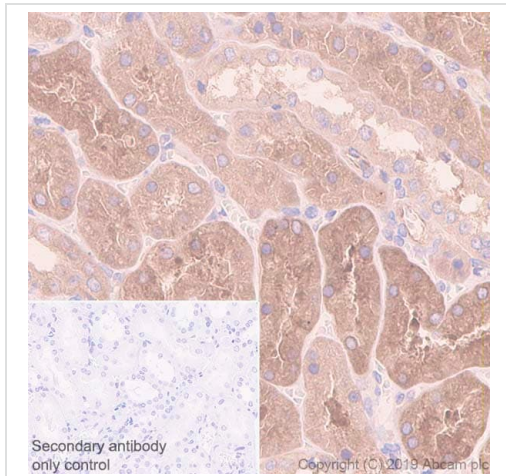
**Lane 4 :** U2OS whole cell lysate

Lysates/proteins at 20 µg per lane.

**Predicted band size:** 80 kDa

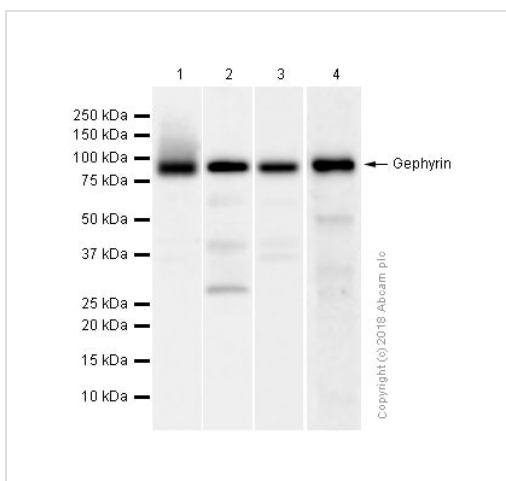
**Lanes 1 -4:** Merged signal (red and green). Green - ab181382 observed at 90 kDa. Red - loading control, **ab9484**, observed at 37 kDa.

ab181382 was shown to recognize Gephyrin in wild-type HAP1 cells as signal was lost at the expected MW in GPHN (Gephyrin) knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and GPHN (Gephyrin) knockout samples were subjected to SDS-PAGE. Ab181382 and **ab9484** (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1 µg/ml and 1/20000 dilution respectively. Blots were developed 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 1/20000 dilution for 1 hour at room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Gephyrin antibody [EPR12650] (ab181382)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue sections labeling Gephyrin with purified ab181382 at 1/100 dilution (1.62 µg/ml). Heat mediated antigen retrieval was performed using [ab93684](#) (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-Gephyrin antibody [EPR12650] (ab181382)

**All lanes :** Anti-Gephyrin antibody [EPR12650] (ab181382) at 1/1000 dilution (Purified)

**Lane 1 :** HEK-293 (Human embryonic kidney epithelial cell) whole cell lysates

**Lane 2 :** Mouse heart lysates

**Lane 3 :** Neuro-2a (Mouse neuroblastoma neuroblast) whole cell lysates

**Lane 4 :** C6 (Rat glial tumor glial cell) whole cell lysates

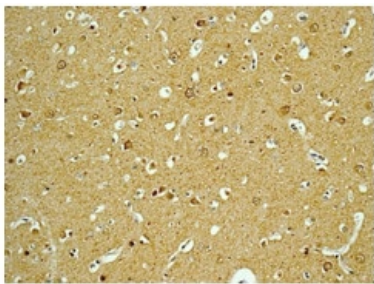
Lysates/proteins at 20 µg per lane.

## Secondary

**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

**Predicted band size:** 80 kDa

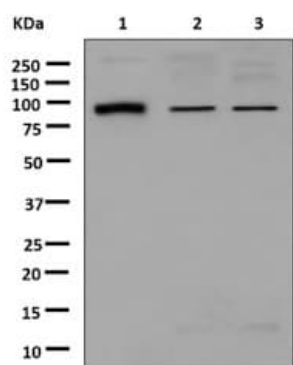
**Observed band size:** 93 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Gephyrin antibody [EPR12650] (ab181382)

Immunohistochemical analysis of paraffin embedded human brain tissue using ab181382 (unpurified).

Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-Gephyrin antibody [EPR12650] (ab181382)

**All lanes :** Anti-Gephyrin antibody [EPR12650] (ab181382) at 1/1000 dilution (unpurified)

**Lane 1 :** Fetal brain tissue lysate

**Lane 2 :** 293T cell lysate

**Lane 3 :** SH-SY5Y cell lysate

Lysates/proteins at 10 µg per lane.

**Predicted band size:** 80 kDa

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-Gephyrin antibody [EPR12650] (ab181382)

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

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