abcam

ab317510

Anti-Neuroligin 2 antibody [RM2048]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Multiclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM2048
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for rat ICC.
Concentration	0.497 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Transfected cell line - Mouse
Dilution info	1/2000
Notes	-

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

Not recommended

Species	Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Not recommended

Species	Human, Transfected cell line - Mouse
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Rat
Dilution info	1/50
Notes	-

Not recommended

Species	Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Not recommended

Species	Rat, Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

Target data

See full target information Nlgn2

Function	Transmembrane scaffolding protein involved in cell-cell interactions via its interactions with neurexin family members. Mediates cell-cell interactions both in neurons and in other types of cells, such as Langerhans beta cells. Mediates cell-

cell interactions between Langerhans beta cells and modulates insulin secretion (By similarity). Plays a role in synapse function and synaptic signal transmission, especially via gamma-aminobutyric acid receptors (GABA(A) receptors). Functions by recruiting and clustering synaptic proteins. Promotes clustering of postsynaptic GABRG2 and GPHN. Promotes clustering of postsynaptic LHFPL4 (PubMed:29742426). Modulates signaling by inhibitory synapses, and thereby plays a role in controlling the ratio of signaling by excitatory and inhibitory synapses and information processing. Required for normal signal amplitude from inhibitory synapses, but is not essential for normal signal frequency. May promote the initial formation of synapses, but is not essential for this. In vitro, triggers the de novo formation of presynaptic structures.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Neuroligin 2 also known as NLGN2 is a postsynaptic cell adhesion molecule with a mass of approximately 106 kDa. It plays an important role in forming and maintaining synaptic connections which are essential for communication between neurons. Neuroligin 2 is predominately expressed in the central nervous system and can be found at inhibitory synapses where it interacts with other synaptic proteins to maintain synaptic structure and function.
Biological function summary	This synaptic adhesion protein plays a part in the formation of synapses and the modulation of synaptic strength. Neuroligin 2 forms a trans-synaptic complex with neurexins on the presynaptic side which helps to stabilize synapses by mediating cell-cell interactions. This interaction is important for maintaining balance between excitatory and inhibitory signals in the brain which contributes to normal brain function and neuronal communication.
Pathways	Neuroligin 2 functions as an integral part of synaptic signaling and neural network activity. It is connected to synaptic pathways that govern synapse assembly which involves other proteins like PSD-95. In particular its interaction with neurexins plays a role in the formation of the inhibitory synapses pathway which regulates inhibitory neurotransmission. Through these pathways Neuroligin 2 influences how neurons communicate and process information within neural circuits.
Associated diseases and disorders	This protein associates with certain neurological and psychiatric conditions. Altered Neuroligin 2 function has links to autism spectrum disorders and schizophrenia. In these diseases its interaction with proteins such as neurexin may be disrupted which can impact synaptic balance and lead to deficits in synaptic function. Studying Neuroligin 2 helps to understand these disorders better and potentially develop therapeutic strategies targeting synaptic adhesion molecules.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

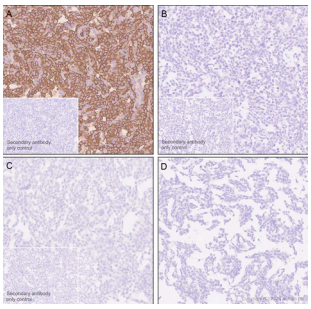
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

14 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Neuroligin 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Neuroligin 2 antibody

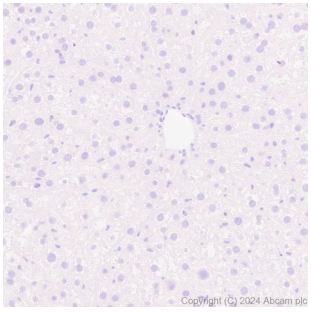
Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human embryonic kidney epithelial cell) transfected with a mouse NLGN2 expression vector containing a his tag. (B) HEK-293T cells transfected with a mouse NLGN1 expression vector containing a his tag. (C) HEK-293T cells transfected with a mouse NLGN3 expression vector containing a his tag. (D) HEK-293T cells transfected with empty vector containing a his tag. tissue labeling Neuroligin 2 with ab317510 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

This antibody does not cross-react with human NLGN1 and NLGN3.
Positive staining on (A) HEK-293T cells transfected with a mouse NLGN2 expression vector containing a his tag, no staining on (B) HEK-293T cells transfected with a mouse NLGN1 expression vector containing a his tag, and (C) HEK-293T cells transfected with a mouse NLGN3 expression vector containing a his tag, and (D) HEK-293T cells transfected with empty vector containing a his tag.
The section was incubated with ab317510 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Neuroligin 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse liver using rabbit Anti-Neuroligin 2 antibody

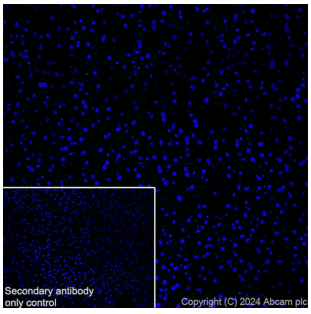
Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling Neuroligin 2 with ab317510 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on mouse liver.
The section was incubated with ab317510 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



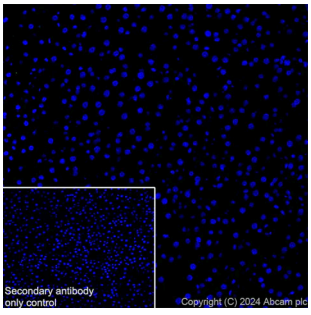
Immunohistochemistry (Frozen sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Neuroligin 2 Immunohistochemistry (Frozen sections) staining of Mouse liver (fresh frozen) using rabbit Anti-Neuroligin 2 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse liver (fresh frozen) tissue labeling Neuroligin 2 with ab317510 at 1/50 (9.94 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green).

Negative control: confocal image showing no staining on mouse liver. The nuclear counterstain was DAPI (Blue). The section was incubated with ab317510 for 60 mins at room temperature. The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/mL dilution.



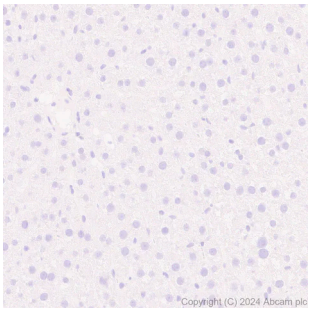
Immunohistochemistry (Frozen sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Neuroligin 2 Immunohistochemistry (Frozen sections) staining of Rat liver (fresh frozen) using rabbit Anti-Neuroligin 2 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat liver (fresh frozen) tissue labeling Neuroligin 2 with ab317510 at 1/50 (9.94 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green).

Negative control: confocal image showing no staining on rat liver. The nuclear counterstain was DAPI (Blue). The section was incubated with ab317510 for 60 mins at room temperature. The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/mL dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Neuroligin 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat liver using rabbit Anti-Neuroligin 2 antibody

Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling Neuroligin 2 with ab317510 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

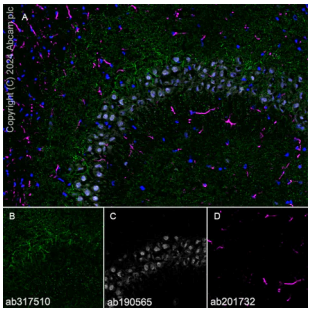
Negative control: no staining on rat liver.
The section was incubated with ab317510 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

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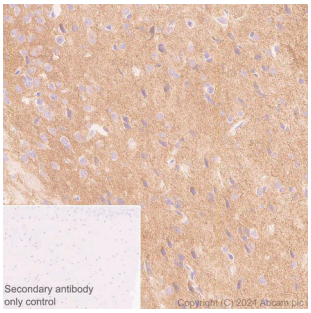


Immunohistochemistry (Frozen sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse hippocampus (fresh frozen) tissue labeling Neuroligin 2 with ab317510 at 1/50 (9.94 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green).

Panel A: merged staining of anti-Neuroligin-2 (ab317510, green), anti-NeuN (ab190565, grey) and anti-GFAP (ab201732, magenta) on mouse hippocampus.
Panel B: anti-Neuroligin-2 stained on mouse hippocampus.
Panel C: anti-NeuN stained in neurons of mouse hippocampus.
Panel D: anti-GFAP stained in astrocytes of mouse hippocampus.
The section was incubated in two rounds of staining: in the order of ab317510 and ab190565, ab201732 for 1 hr at room temperature. The nuclear counterstain was DAPI (Blue). The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/mL dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

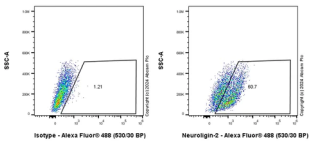
Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labeling Neuroligin 2 with ab317510 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on rat cerebrum (PMID: 16982420).
The section was incubated with ab317510 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

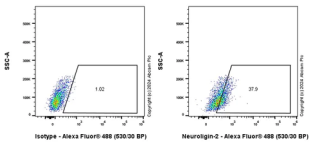


Flow Cytometry - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Flow cytometric analysis of Mouse primary neuron cells labelling Neuroligin 2 with ab317510 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Gated on viable cells.

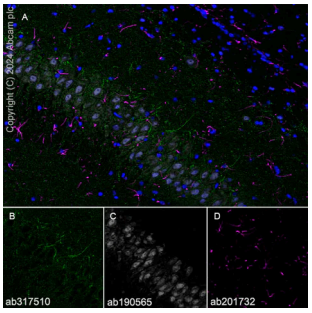


Flow Cytometry - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Flow cytometric analysis of Rat primary neuron cells labelling Neuroligin 2 with ab317510 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Gated on viable cells.

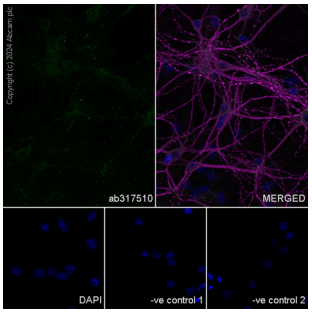


Immunohistochemistry (Frozen sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat hippocampus (fresh frozen) tissue labeling Neuroligin 2 with ab317510 at 1/50 (9.94 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green).

Panel A: merged staining of anti-Neuroligin-2 (ab317510, green), anti-NeuN (ab190565, grey) and anti-GFAP (ab201732, magenta) on rat hippocampus.
Panel B: anti-Neuroligin-2 stained on rat hippocampus.
Panel C: anti-NeuN stained in neurons of rat hippocampus.
Panel D: anti-GFAP stained in astrocytes of rat hippocampus.
The section was incubated in two rounds of staining: in the order of ab317510 and ab190565, ab201732 for 1 hr at room temperature. The nuclear counterstain was DAPI (Blue). The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/mL dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neural/glia cell cells labelling Neuroligin 2 with ab317510 at 1/50 (9.94 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/mL dilution (Green).

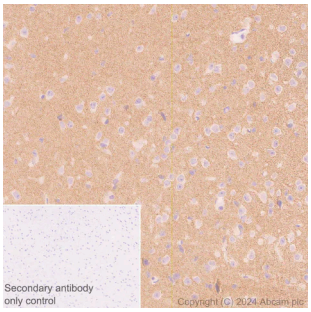
Confocal image showing positive staining in mouse primary neural/glia cell (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Confocal scanning Z step was set as 0.3 um followed by image processing with maximum Z projection.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 4ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution.

-ve control 1: ab317510 at 1/50 (9.94 ug/ml) dilution, followed by ab150120 at 1/1000 2 ug/mL dilution.

-ve control 2: ab11267 1/500 4ug/ml dilution, followed by ab150081 at 1/1000 2 ug/mL dilution (Green).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

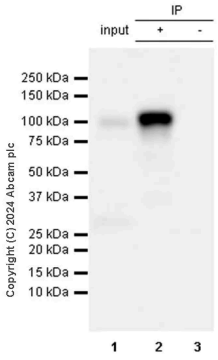
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling Neuroligin 2 with ab317510 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse cerebrum (PMID: 19926856).
The section was incubated with ab317510 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunoprecipitation - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Neuroligin 2 was immunoprecipitated from 0.35 mg Mouse brain tissue lysate with ab317510 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab317510 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: Mouse brain tissue lysate
Lane 2: ab317510 IP in Mouse brain tissue lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab317510 in mouse brain tissue lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-Neuroligin 2 antibody [RM2048] (ab317510) at 1/30 dilution

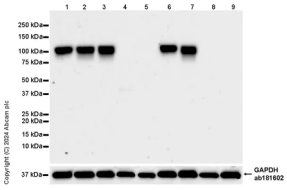
Lane 1:
Mouse brain tissue lysate

Lane 2:
ab317510 IP in Mouse brain tissue lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 8s



Western blot - Anti-Neuroligin 2 antibody [RM2048] (ab317510)

Neuroligin 2 Western blot staining using rabbit Anti-Neuroligin 2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: liver, kidney (PMID: 10718198, 8576240, 18434543).

Samples are non-boiled as boiling may cause protein aggregation.

All lanes:
Western blot - Anti-Neuroligin 2 antibody [RM2048] (ab317510) at 1/1000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Mouse hippocampus tissue lysate at 20 µg

Lane 3:
Mouse cerebellum tissue lysate at 20 µg

Lane 4:
Mouse liver tissue lysate at 20 µg

Lane 5:
Mouse kidney tissue lysate at 20 µg

Lane 6:
Rat brain tissue lysate at 20 µg

Lane 7:
Rat cerebellum tissue lysate at 20 µg

Lane 8:
Rat kidney tissue lysate at 20 µg

Lane 9:
Rat liver tissue lysate at 20 µg

Secondary

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

Observed band size: 100 kDa, 36 kDa

Exposure time: 81s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.