abcam

ab259318

Anti-Aquaporin 4 antibody [EPR24281-65]

Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318) is a rabbit monoclonal antibody detecting Aquaporin 4 in **Western Blot, Flow Cytometry (Intra), IHC-P, IHC-Fr, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | KO Validated | 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	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24281-65
Purification technique	Affinity purification Protein A
Concentration	0.509 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse

Dilution info	1/200
Notes	-

Species	Rat
Dilution info	1/200
Notes	-

Expected

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

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

Expected

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

IHC-P

Tested

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.

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

Target data

See full target information AQP4

Function Forms a water-specific channel (PubMed:19383790, PubMed:7559426, PubMed:8601457). Plays an important role in brain water homeostasis (PubMed:37143309). It is involved in glymphatic solute transport and is required for a normal rate of water exchange across the blood brain interface. Required for normal levels of cerebrospinal fluid influx into the brain cortex and parenchyma along paravascular spaces that surround penetrating arteries, and for normal drainage of interstitial fluid along paravenous drainage pathways. Thereby, it is required for normal clearance of solutes from the brain interstitial fluid, including soluble beta-amyloid peptides derived from APP. Plays a redundant role in urinary water homeostasis and urinary concentrating ability (By similarity).

Storage

Shipped at conditions	Conditional Ambient
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 is this antibody validated in?
Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunohistochemistry (IHC-Fr), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of Aquaporin 4?
Anti-Aquaporin 4 [EPR24281-65] (ab259318) specifically detects a band for Aquaporin 4 (UniProt: P55087) at a molecular weight of 34kDa.

Specificity confirmed
The specificity of Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318) has been confirmed by Western blot testing in AQP4 Knockout Mouse brain, kidney, skeletal muscle samples.

Other related products
We have a range of other formats of antibody clone [EPR24281-65] also available for your convenience: ab259318, Carrier free - ab282586, Alexa Fluor® 488 - ab284135, Carrier free - ab290689, Alexa Fluor® 647 - ab290986

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.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary

	Aquaporin 4 also known as AQP4 functions as a water channel protein that facilitates the transport of water across cell membranes. It is composed of approximately 323 amino acids resulting in a molecular mass of around 34-38 kDa. This target expresses most in the central nervous system especially in the astrocytes of the brain and spinal cord. Other expression sites include skeletal muscle kidneys and lungs. AQP4 is often studied using various tools including anti-aquaporin 4 antibodies and specific reagents like AQP4 Ab and anti-AQP4.
Biological function summary	Water balance and neural activity regulation are significantly influenced by aquaporin 4. This protein forms a part of the orthogonal array of particles (OAPs) in the plasma membrane which enhances its water permeability function. Through its concentration at the blood-brain barrier AQP4 contributes to maintaining brain homeostasis by regulating osmotic gradients and extracellular space ion concentrations. Its expression and activity may affect critical processes like neuroexcitation and neuroprotection.
Pathways	Aquaporin 4 actively engages in critical water transport and blood-brain barrier integrity pathways. The passive yet selective water transport facilitated by AQP4 impacts pathways including the transcellular pathway that helps in maintaining the homeostatic and osmotic balance important for brain function. Furthermore AQP4 acts in relation to other proteins such as aquaporin 1 and connexin 43 indicating its role in gap junction communication within the brain.
Associated diseases and disorders	Aquaporin 4 is intricately linked to conditions like neuromyelitis optica (NMO) and cerebral edema. In NMO autoantibodies such as anti-AQP4 target the protein causing demyelination and inflammation of the optic nerve and spinal cord. In cases of cerebral edema an imbalance in AQP4 expression can disrupt water homeostasis leading to exacerbated swelling. AQP4's interaction with proteins like myelin basic protein in these diseases underlines its significance in neurodegeneration and inflammatory processes.

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

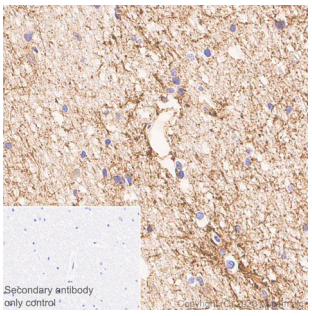
We do not recommend this combination. It is not covered by our product promise.

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.

24 product images

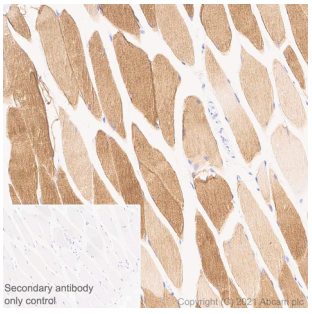


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labelling Aquaporin-4 with ab259318 at 1/2000 (0.299 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Strong membrane and cytoplasm staining on human cerebrum. (PMID: 7559426, 19170255) The section was incubated with ab259318 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

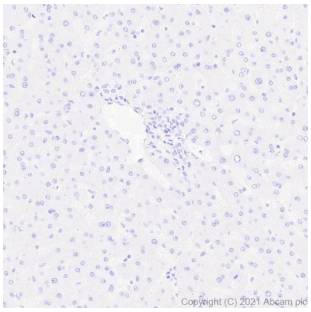


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labelling Aquaporin-4 with ab259318 at 1/2000 (0.299 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human skeletal muscle. The section was incubated with ab259318 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

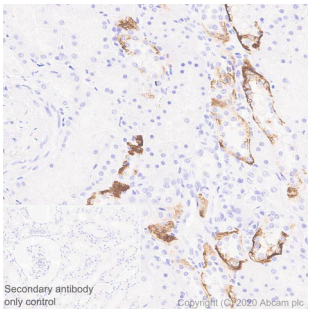


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of paraffin-embedded Human liver tissue labelling Aquaporin-4 with ab259318 at 1/2000 (0.299 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). **Negative control**: no staining on human liver. (PMID: 19170255) The section was incubated with ab259318 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

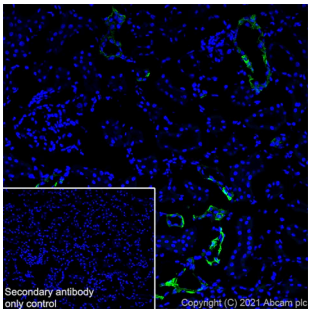


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labelling Aquaporin-4 with ab259318 at 1/2000 (0.299 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human kidney. (PMID: 19170255) The section was incubated with ab259318 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).

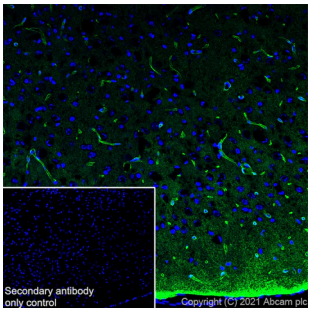
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Frozen sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Aquaporin 4 antibody

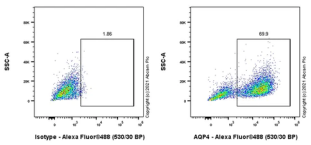
Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat kidney (fresh) tissue labeling Aquaporin-4 with ab259318 at 1/500 (1.196 ug/ml) dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Cytoplasmic and membranous staining on rat kidney (PMID: 17442782) is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.



Immunohistochemistry (Frozen sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Aquaporin 4 antibody

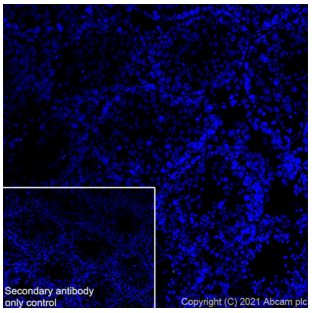
Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse cerebrum (fresh) tissue labeling Aquaporin-4 with ab259318 at 1/500 (1.196 ug/ml) dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Positive staining on mouse cerebrum (PMID: 21990350) is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Flow Cytometry (Intracellular) staining using rabbit Anti-Aquaporin 4 antibody

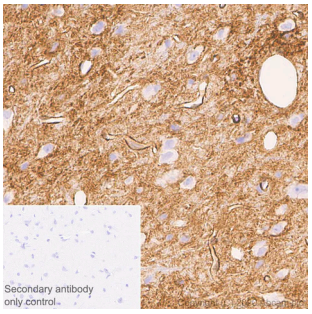
Flow cytometric analysis of 4% paraformaldehyde fixed 0.1% Tween-20 permeabilized Rat primary neural/glia cell cells labelling Aquaporin-4 with ab259318 at 1/500 dilution (0.1ug)/ Right (Red) compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Immunohistochemistry (Frozen sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse testis (fresh) tissue labeling Aquaporin-4 with ab259318 at 1/500 (1.196 ug/ml) dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). **Negative control**: No staining on mouse testis testis (PMID: 16840793) is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.

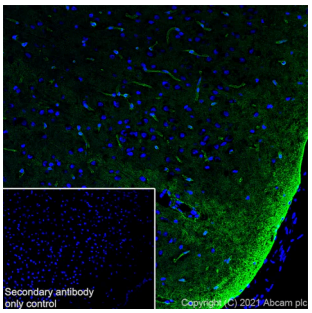


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labelling Aquaporin-4 with ab259318 at 1/5000 (0.299 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on rat cerebrum. The section was incubated with ab259318 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).

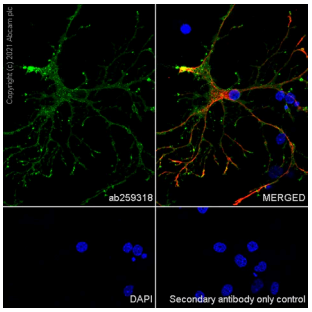
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Frozen sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Aquaporin 4 antibody

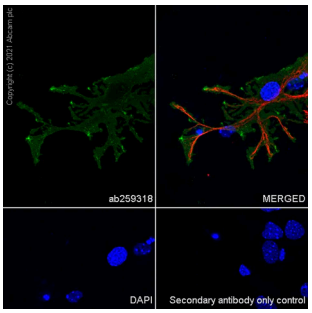
Immunohistochemical analysis of 4% PFA-fixed 0.2% Triton X-100 permeabilized frozen Rat cerebrum (fresh) tissue labeling Aquaporin-4 with ab259318 at 1/500 (1.196 ug/ml) dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Positive staining on rat cerebrum (PMID: 21990350) is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Aquaporin 4 antibody

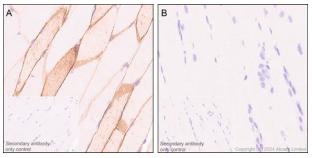
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary neural/glia cell cells labelling Aquaporin-4 with ab259318 at 1/200 (2.99 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in rat astrocyte cells. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection is observed. ab10062 Anti-GFAP mouse monoclonal antibody was used as counterstain at 1/50 dilution (Red). 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 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

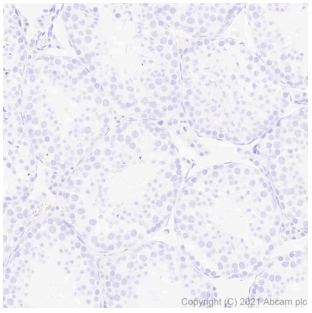
Aquaporin 4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Aquaporin 4 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neural/glia cell cells labelling Aquaporin-4 with ab259318 at 1/200 (2.99 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in mouse astrocyte cells. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection is observed. ab10062 Anti-GFAP mouse monoclonal antibody was used as counterstain at 1/50 dilution (Red). 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 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Immunohistochemical analysis of paraffin-embedded (A) Skeletal muscle tissue from wild-type C57BL/6JGpt mice (B) Skeletal muscle tissue from AQP4 knockout mice labelling Aquaporin-4 with ab259318 at 1/5000 followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Counterstained with Hematoxylin. Antigen retrieval was heat mediated with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins. Positive staining on (A) Skeletal muscle tissue from wild-type C57BL/6JGpt mice and no staining on (B) Skeletal muscle tissue from AQP4 knockout mice. The section was incubated with ab259318 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. The tissue samples were kindly provided by GemPharmatech. C57BL/6JGpt wildtype mice and Aqp4-KO homozygous mice (Strain ID: T011901).

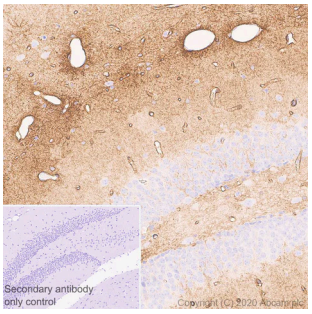


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of paraffin-embedded Mouse testis tissue labelling Aquaporin-4 with ab259318 at 1/5000 (0.299 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). **Negative control**: no staining on mouse testis. The section was incubated with ab259318 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

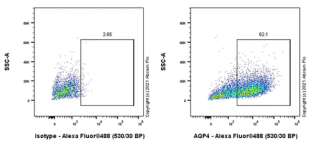


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labelling Aquaporin-4 with ab259318 at 1/5000 (0.299 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on mouse cerebrum. The section was incubated with ab259318 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).

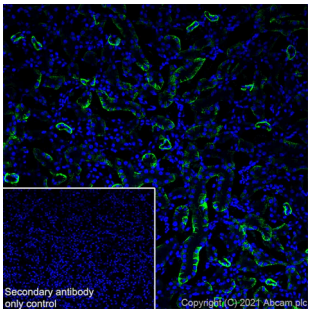
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Flow Cytometry (Intracellular) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Flow Cytometry (Intracellular) staining using rabbit Anti-Aquaporin 4 antibody

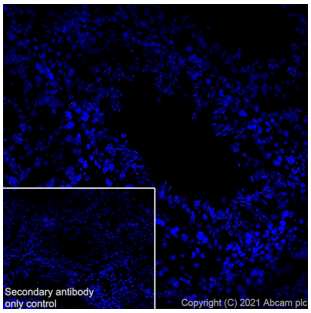
Flow cytometric analysis of 4% paraformaldehyde fixed 0.1% Tween-20 permeabilized Mouse primary neural/glia cell cells labelling Aquaporin-4 with ab259318 at 1/500 dilution (0.1ug)/ Right (Red) compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Immunohistochemistry (Frozen sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Aquaporin 4 antibody

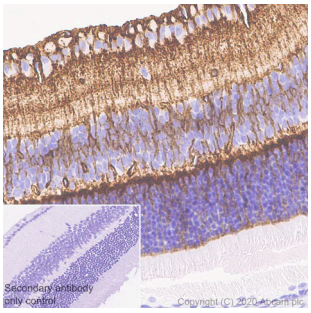
Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse kidney (fresh) tissue labeling Aquaporin-4 with ab259318 at 1/500 (1.196 ug/ml) dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Cytoplasmic and membranous staining on mouse kidney (PMID: 17442782) is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.



Immunohistochemistry (Frozen sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Aquaporin 4 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat testis (fresh) tissue labeling Aquaporin-4 with ab259318 at 1/500 (1.196 ug/ml) dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). **Negative control**: No staining on rat testis testis (PMID: 16840793) is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.

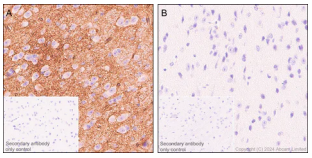


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aquaporin 4 antibody

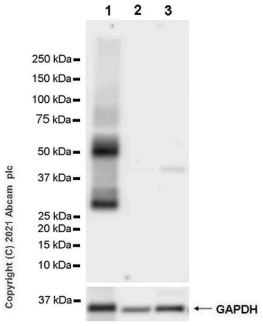
Immunohistochemical analysis of paraffin-embedded Mouse retina tissue labelling Aquaporin-4 with ab259318 at 1/5000 (0.299 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on mouse retina. (PMID:17525153) The section was incubated with ab259318 for 30 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Immunohistochemical analysis of paraffin-embedded (A) Brain tissue from wild-type C57BL/6JGpt mice (B) Brain tissue from AQP4 knockout mice labelling Aquaporin-4 with ab259318 at 1/5000 followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Counterstained with Hematoxylin. Antigen retrieval was heat mediated with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins Positive staining on (A) Brain tissue from wild-type C57BL/6JGpt mice and no staining on (B) Brain tissue from AQP4 knockout mice. The section was incubated with ab259318 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. The tissue samples were kindly provided by GemPharmatech. C57BL/6JGpt wildtype mice and Aqp4-KO homozygous mice (Strain ID: T011901).



Western blot - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Western blot staining using rabbit Anti-Aquaporin 4 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The molecular weight is consistent with what has been described in the literature. Bands observed at 52 kDa may represent the glycosylated form of AQP4 and the lower band may be the nonglycosylated form (PMID:26786101, 8594871).

The expression profile observed in the human liver is consistent with the literature (PMID: 19170255).

Lysate were made unboil. We recommend not to boil the samples after lysis to get desired WB results.

All lanes:
Western blot - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318) at 1/1000 dilution

Lane 1:
Human skeletal muscle tissue lysate at 20 µg

Lane 2:
Human liver tissue lysate at 20 µg

Lane 3:
Human testis tissue lysate at 20 µg

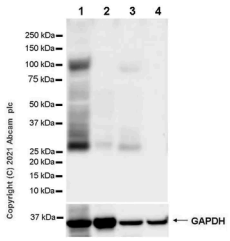
Secondary

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

Predicted band size: 35 kDa

Observed band size: 28 kDa, 52 kDa

Exposure time: 3min



Western blot - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Western blot staining using rabbit Anti-Aquaporin 4 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The molecular weight is consistent with what has been described in the literature. Bands observed at 100 kDa relate to a tetramer of AQP4 (PMID:18334967, 11742978)

The expression profile observed in mouse testis is consistent with the literature (PMID:16840793, 23712968).

Lysate were made unboil. We recommend not to boil the samples after lysis to get desired WB results.

All lanes:
Western blot - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318) at 1/1000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Mouse skeletal muscle tissue lysate at 20 µg

Lane 3:
Mouse stomach tissue lysate at 20 µg

Lane 4:
Mouse testis tissue lysate at 20 µg

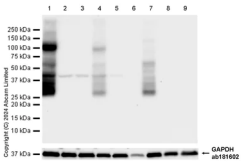
Secondary

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

Predicted band size: 35 kDa

Observed band size: 100 kDa, 28 kDa

Exposure time: 3min



Western blot - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Western blot staining using rabbit Anti-Aquaporin 4 antibody

In Western Blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) used at 1/200000 dilution.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Boiling leads to the formation of aggregates of membrane proteins, leading to unsuccessful migration in the gel. We recommend to to run unboiled lysate samples when testing for Aqp4 expression by western blot.

The tissue samples were kindly provided by GemPharmatech. C57BL/6JGpt wildtype mice and Aqp4-KO homozygous mice (Strain ID: T011901).

All lanes:
Western blot - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318) at 1/1000 dilution

Lane 1:
Wild-type mouse brain tissue lysate (female)

Lanes 2 - 3:
AQP4 knockout brain tissue lysate (female)

Lane 4:
Wild-type mouse kidney tissue lysate (female)

Lanes 5 - 6:
AQP4 knockout kidney tissue lysate (female)

Lane 7:
Wild-type mouse skeletal muscle tissue lysate (female)

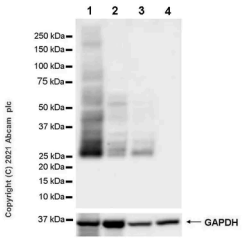
Lanes 8 - 9:
AQP4 knockout skeletal muscle tissue lysate (female)

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 28 kDa, 52 kDa

Exposure time: 4s



Western blot - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318)

Aquaporin 4 Western blot staining using rabbit Anti-Aquaporin 4 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The molecular weight is consistent with what has been described in the literature (PMID:18334967, 11742978).

The expression profile observed in rat testis is consistent with the literature (PMID: 16840793, 23712968).

Lysate were made unboil. We recommend not to boil the samples after lysis to get desired WB results.

All lanes:
Western blot - Anti-Aquaporin 4 antibody [EPR24281-65] (ab259318) at 1/1000 dilution

Lane 1:
Rat brain tissue lysate at 20 µg

Lane 2:
Rat skeletal muscle tissue lysate at 20 µg

Lane 3:
Rat stomach tissue lysate at 20 µg

Lane 4:
Rat testis tissue lysate at 20 µg

Secondary

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

Predicted band size: 35 kDa

Observed band size: 28 kDa

Exposure time: 3min

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