

Anti-Aquaporin 4

Polyclonal Antibody

Cat. # AB2218

Lot # LV1524961

pack size: 100 µg

Store at 2-8°C

FOR RESEARCH USE ONLY
NOT FOR USE IN HUMANS



Certificate of Analysis

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Applications	Species Cross-Reactivity	Antibody Isotype	Epitope/Region	Host Species	Molecular Weight	Accession #
WB	R	N/A	C-Terminus	Rb	~34.5 kDa	NP_036957

Background

Water is a critical component of all living cells. Interestingly, tissue membranes show a great degree of water permeability. Mammalian red cells, renal proximal tubules, and descending thin limb of Henle are extraordinarily permeable to water. Water crosses hydrophobic plasma membranes either by simple diffusion or through a facilitative transport mechanism mediated by special protein "aquaporin". Aquaporin, are integral membrane proteins from a larger family of major intrinsic proteins (MIP) that form pores in the membrane of biological cells. Over the last decade, genes for several members of the aquaporin family have been cloned, expressed, and their distribution studied in many tissues. The water-specific channel Aquaporin 4 is located in various tissues including the gastro intestinal tract, kidney and brain. It is an osmoreceptor which regulates body water balance and mediates water flow within the central nervous system.

Presentation

Purified in PBS with 0.05% NaN₃

Concentration

1 mg/mL

Specificity

AB2218 recognizes Aquaporin 4.

Species Cross-reactivity

Rat. Reactivity in other species has not been tested.

Immunogen

Synthetic Linear Peptide

Molecular Weight

Approx. 34.5 kDa

Method of Purification

Immuno affinity purified.

Storage and Handling

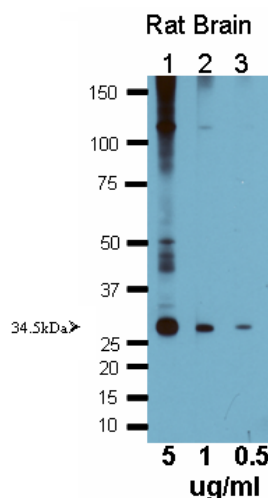
Maintain at 2-8°C in undiluted aliquots for up to 1 year after date of receipt.

Control

Routinely tested on adult rat brain lysate.

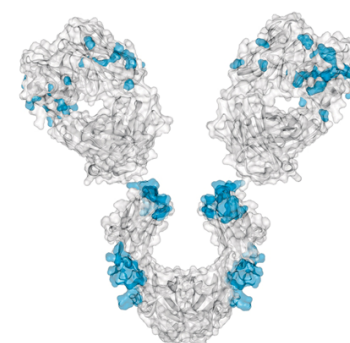
Quality Control Testing

Lot Specific Tested Application 1: Western Blot



Western Blot Analysis:

Cat. # AB2218 can detect Aquaporin 4 at 0.5 µg/mL in adult rat brain Lysate.



References

1. Saadoun, S., et al., *Neurology, Neurosurgery and Psychiatry* (2002) 72:262-265.
2. Kreda, S.M., et al., *Am. J. Respir. Cell Mol. Biol.* (2001) 24:224-234.3.

APPLICATION LEGEND: WB Western Blotting IP Immunoprecipitation IC Immunocytochemistry IF Immunofluorescence
IH Immunohistochemistry (Tissue)

SPECIES LEGEND: H Human M Mouse R Rat Rb Rabbit WR Most Common Vertebrates

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PROTOCOL

Western Blotting Protocol

1. Mix the samples (organ membranes: 50 µg/lane; transfected cells: 500,000 cells/lane) with sample-buffer X 2, and heat 10 min at 70°C.
2. 5-50 µL applied to Minigel lane (0.75-1.5 mm width) and run at standard conditions. (60 mA for 2 1.5 mm Minigel gels, 1.4 h). It is suggested that you run 5-15% acrylamide (37.5:1 acrylamide:bisacrylamide) minigel (1.5 mm width) at 30 mA/gel ~1-1.5 hours.
3. Transfer in semi-dry system under standard conditions (3 h 100 mA for two minigel gels)
4. Stain the transferred bands with Millipore BLOT-FastStain (Catalog Number 2076).
5. Destain with deionized water.
6. Block with 5% non-fat milk (Marvel or Carnation) in PBS, and 0.025 % sodium azide, overnight at 2-8°C. The non-fatmilk should be dissolved freshly, centrifuged 10,000 rpm for 10 min, and filtered through glass filter (Gelman Acrodisc).
7. Incubation with first antibody 2 h at room temperature or overnight at 4°C in blocking solution. The antibody preparation should be centrifuged before use (10,000 g for 5 min.). Optimal working dilutions and incubation time will need to be determined by the end user.
8. Wash 4 x 10 min. with PBS-0.1% tween 20. From this stage, azide should be omitted.
9. Incubation with the secondary antibody (HRP-conjugated goat anti-rabbit antibody, for example Millipore Catalog Number AP132P, diluted appropriately) 1 h at room temperature.
10. Wash 4 x 10 min. with PBS-0.1% tween 20.
11. Perform ECL with commercial kits (Chemilum, Millipore Catalog Number 2600).

RELATED PRODUCTS (specific)		RELATED PRODUCTS (non-specific)	
cat #	description	cat #	description
		IPVH00010	■ Immobilon-P 26.5 cm x 3.75 m Roll PVDF 0.45 µm
		IPFL00010	■ Immobilon-FL 26.5 cm x 3.75 m Roll PVDF 0.45 µm
		IPVH07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.45 mm (sheet) 50/pk
		ISEQ00010	■ Immobilon-P SQ 26.5 cm x 3.75 m 1 roll PVDF 0.2 µm
		ISEQ07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.2 mm (sheet) 50/pk
		IPFL07810	■ Immobilon-FL 7 x 8.4 cm PVDF 0.45 mm (sheet) 10/pk
		WBKLS0100	■ Immobilon Western Chemilum HRP Substrate 100 mL
		17-373	■ Spray & Glow™ ECL WB Detection System 1 ea
		2060	■ Re-Blot Western Blot Recycling Kit
		2500	■ Re-Blot Plus Western Blot Recycling Kit
		B2080-175GM	■ Blot Quick Blocker Membrane Blocking Agent 175G

■ antibodies ■ Multiplex products ■ biotools ■ cell culture ■ enzymes ■ kits ■ proteins/peptides ■ siRNA/cDNA products

Please visit www.millipore.com for additional product information, test data and references