**Product datasheet**

**Anti-Aquaporin 4 antibody ab46182**

**Overview**

**Product name**
Anti-Aquaporin 4 antibody

**Description**
Rabbit polyclonal to Aquaporin 4

**Host species**
Rabbit

**Specificity**
ab46182 is not suitable for staining Aquaporin 4 in IHC using paraffin embedded sections but some customers have successfully used the antibody in frozen sections (see submitted Abreviews). Please contact Scientific Support if you need further help.

**Tested applications**
Suitable for: WB, ICC/IF, IHC-FrFl, ICC

**Species reactivity**
Reacts with: Mouse, Rat, Human, Pig

Predicted to work with: Sheep, Chicken, Cow

**Immunogen**
Synthetic peptide conjugated to KLH derived from within residues 50 - 150 of Human Aquaporin 4.

Read Abcam’s proprietary immunogen policy(Peptide available as ab46181.)

**Positive control**
This antibody gave a positive signal in the following Tissue Lysates: Brain (Human), Heart (Human) and Brain (Rat).

**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 or -80°C. Avoid freeze / thaw cycle.

**Storage buffer**
Preservative: 0.02% Sodium Azide
Constituents: 1% BSA, PBS, pH 7.4

**Purity**
Immunogen affinity purified

**Clonality**
Polyclonal

**Isotype**
IgG

**Applications**

Our Abpromise guarantee covers the use of ab46182 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Function: Forms a water-specific channel. Osmoreceptor which regulates body water balance and mediates water flow within the central nervous system.

Tissue specificity: Brain - muscle >> heart, kidney, lung, and trachea.

Sequence similarities: Belongs to the MIP/aquaporin (TC 1.A.8) family.

Domain: Aquaporins contain two tandem repeats each containing three membrane-spanning domains and a pore-forming loop with the signature motif Asn-Pro-Ala (NPA).

Post-translational modifications: Phosphorylation by PKC at Ser-180 reduces conductance by 50%. Phosphorylation by PKG at Ser-111 in response to glutamates increases conductance by 40%.

Cellular localization: Membrane.

Application | Abreviews | Notes
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WB | ⭐⭐⭐⭐⭐ | Use a concentration of 1 µg/ml. Detects a band of approximately 48 kDa (predicted molecular weight: 35 kDa). Can be blocked with Human Aquaporin 4 peptide (ab46181). Abcam recommends using milk as the blocking agent.

ICC/IF | ⭐⭐⭐⭐⭐ | Use at an assay dependent concentration.

IHC-FrFl | ⭐⭐⭐⭐⭐ | Use at an assay dependent concentration.

ICC | ⭐⭐⭐⭐⭐ | Use at an assay dependent concentration.

Target

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Images
Western blot - Anti-Aquaporin 4 antibody (ab46182)

All lanes: Anti-Aquaporin 4 antibody (ab46182) at 1 µg/ml (blocked with 3% milk)

Lane 1: Human brain tissue lysate - total protein (ab29466)

Lane 2: Brain (Rat) Tissue Lysate

Lane 3: Human heart tissue lysate - total protein (ab29431)

Lysates/proteins at 10 µg per lane.

Secondary

All lanes: Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 35 kDa

Observed band size: 48 kDa

Additional bands at: 22 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 12 minutes

ab46182 staining Aquaporin 4 in mouse RAW 264.7 cells by Immunocytochemistry/Immunofluorescence.

Cells were fixed with paraformaldehyde and blocked with 10% serum for 20 minutes at 24°C. Samples were incubated with primary antibody (1/100 in PBS) for 16 hours at 4°C. An Alexa Fluor® 488-conjugated goat anti-rabbit polyclonal (1/1000) was used as the secondary antibody.
Immunocytochemical analysis of 33B cells originating from Rat nervous tissue oligodendroglioma, labelling AQP4 with ab46182 diluted 1/100. Cells were PFA fixed. Hematoxylin used to counterstained. Negative control given were ab46182 was not included.

Immunohistochemical analysis of Pig brain tissue labelling Aquaporin 4 with ab46182 at 1/100. Tissue fixed by perfusion, antigen retrieval performed by microwaving in citric acid buffer. DAB staining.

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