

## Anti-Aquaporin 4/AQP4 Antibody Picoband®

Catalog Number: PA1937

### About AQP4

AQP4 (Aquaporin 4), also known as MERCURIAL-INSENSITIVE WATER CHANNEL; MIWC, is protein which in humans is encoded by the AQP4 gene. The aquaporins are a family of water-selective membrane channels found in animals, plants, and microorganisms. AQP4 is the predominant water channel in the brain and has an important role in brain water homeostasis. By fluorescence in situ hybridization, Lu et al. (1996) determined that the AQP4 gene maps to 18q11.2-q12.1. By interspecific backcross analysis, Turtzo et al. (1997) mapped the mouse Aqp4 gene to the proximal region of chromosome 18. Analyzing the expression of AQP4 in mammalian skeletal muscle, Frigeri et al. (1998) found that, in immunohistochemical experiments, affinity-purified AQP4 antibodies stained selectively the sarcolemma of fast-twitch fibers. Immunocytochemistry revealed strong AQP4 water channel expression in Muller cells in mouse retina and in fibrous astrocytes in optic nerve.

### Overview

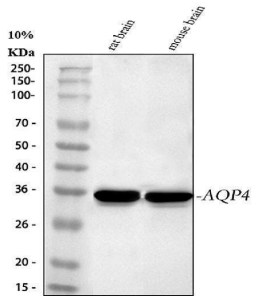
Product Name	Anti-Aquaporin 4/AQP4 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Aquaporin 4/AQP4 Antibody catalog # PA1937. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P55087

### Technical Details

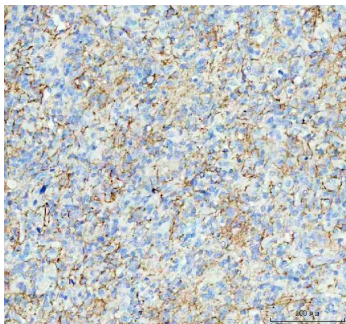
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Aquaporin 4, different from the related rat and mouse sequences by two amino acids.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG

Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Mouse, Rat

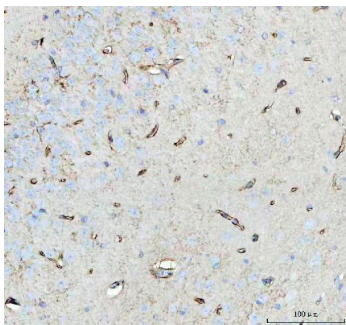
## Anti-Aquaporin 4/AQP4 Antibody Picoband® (PA1937) Images



Western blot analysis of AQP4 using anti-AQP4 antibody (PA1937). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-AQP4 antigen affinity purified polyclonal antibody (Catalog # PA1937) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for AQP4 at approximately 35 kDa. The expected band size for AQP4 is at 35 kDa.

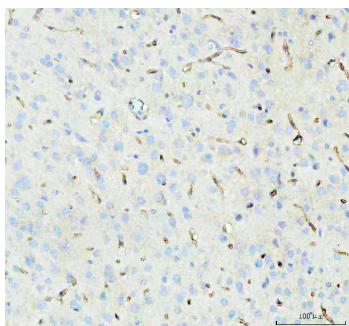


IHC analysis of AQP4 using anti-AQP4 antibody (PA1937). AQP4 was detected in a paraffin-embedded section of human glioma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-AQP4 Antibody (PA1937) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of AQP4 using anti-AQP4 antibody (PA1937). AQP4 was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-AQP4 Antibody (PA1937) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

IHC analysis of AQP4 using anti-AQP4 antibody (PA1937). AQP4 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-AQP4 Antibody (PA1937) overnight at 4°C. Peroxidase Conjugated



Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

## 5 Publications Citing This Product

1. PubMed ID: 29445328, Anzabi M, Ardalan M, Iversen NK, Rafati AH, Hansen B, ?stergaard L. Front Cell Neurosci. 2018 Jan 31;12:19. doi: 10.3389/fncel.2018.00019. eCollection 2018. Hippocampal Atrophy Following Subarachnoid Hemorrhage Correlates with Disruption of Astrocytes
2. PubMed ID: 26261083, Expression pattern of aquaporins in patients with primary nephrotic syndrome with edema
3. PubMed ID: 24995117, Chen Hm, Huang Hs, Ruan L, He Yb, Li Xj. Int J Clin Exp Med. 2014 May 15;7(5):1483-9. Ecollection 2014. Ulinastatin Attenuates Cerebral Ischemia-Reperfusion Injury In Rats.

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