BOSTER
antibody and ELISA experts

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Anti-Aquaporin 4/AQP4 Antibody Picoband®

Catalog Number: A01049

About AQP4

Aquaporin 4 is found in the basolateral cell membrane of principal collecting duct cells and provides a pathway for water to exit these cells. The gene of AQP4 is mapped to 18q11.2-q12.1. Similar to other aquaporins, the AQP4 gene is composed of 4 exons encoding 127, 55, 27, and 92 amino acids separated by introns of 0.8, 0.3, and 5.2 kb. Unlike other aquaporins, an alternative coding initiation sequence (designated exon 0) was located 2.7 kb upstream of exon 1. When spliced together, M1 and the subsequent 10 amino acids are encoded by exon 0; the next 11 amino acids and M23 are encoded by exon 1. AQP4 is expressed in astrocytes and is upregulated by direct insult to the central nervous system. And AQP4 is the predominant water channel in the brain and has an important role in brain water homeostasis. It is abundant in mammalian brain and is concentrated in astrocytic foot processes at the blood-brain barrier.

Overview

Product Name	Anti-Aquaporin 4/AQP4 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Aquaporin 4/AQP4 Antibody Picoband® catalog # A01049. Tested in ELISA, Flow Cytometry, 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	ELISA, Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Storage Instructions	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 freezing and thawing.
Host	Rabbit
Uniprot ID	P55087

Technical Details

Immunogen	E.coli-derived human Aquaporin 4/AQP4 recombinant protein (Position: L247-V323).
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

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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, 0.25-0.5 ug/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Mouse, Rat Flow Cytometry (Fixed), 1-3 ug/1x10^6 cells, Human ELISA, 0.1-0.5 ug/ml, -

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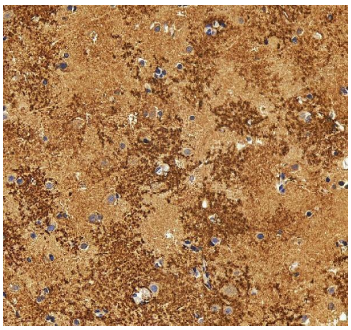
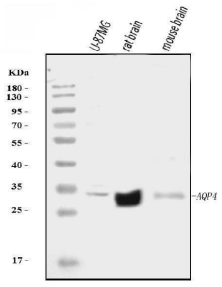
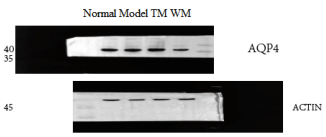
Anti-Aquaporin 4/AQP4 Antibody Picoband® (A01049) Images



IHC analysis of Aquaporin 4/AQP4 using anti-Aquaporin 4/AQP4 antibody (A01049). Aquaporin 4/AQP4 was detected in a paraffin-embedded section of human 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-Aquaporin 4/AQP4 Antibody (A01049) 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.



Western blot analysis of Aquaporin 4/AQP4 using anti-Aquaporin 4/AQP4 antibody (A01049). 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: human U-87MG whole cell lysates, Lane 2: rat brain tissue lysates, Lane 3: 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-Aquaporin 4/AQP4 antigen affinity purified polyclonal antibody (Catalog # A01049) 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 Aquaporin 4/AQP4 at approximately 32 kDa. The expected band size for Aquaporin 4/AQP4 is at 32 kDa.



Western blot analysis of Aquaporin 4/AQP4 using anti-Aquaporin 4/AQP4 antibody (A01049). 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: Normal group-rat colon tissue lysates, Lane 2: Model group-rat colon tissue lysates, Lane 3: Triditional Chinese medicine group-rat colon tissue lysates, Lane 4: Western medicine group-rat colon 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-Aquaporin 4/AQP4 antigen affinity purified polyclonal antibody (Catalog # A01049) at 1:1000 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 for 1 hour at RT. The signal is developed using an

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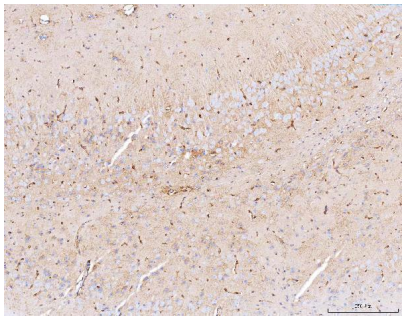
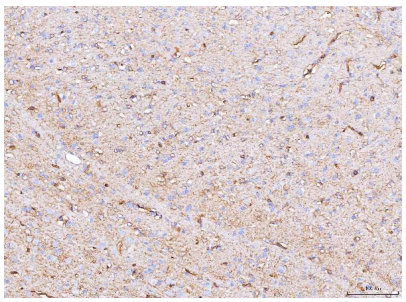
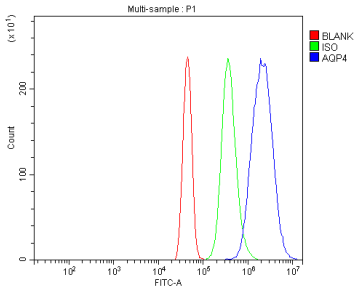
Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with ChemiDoc MP system. A specific band was detected for Aquaporin 4/AQP4 at approximately 37 kDa. The expected band size for Aquaporin 4/AQP4 is at 32 kDa.



IHC analysis of Aquaporin 4/AQP4 using anti-Aquaporin 4/AQP4 antibody (A01049). Aquaporin 4/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-Aquaporin 4/AQP4 Antibody (A01049) 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 Aquaporin 4/AQP4 using anti-Aquaporin 4/AQP4 antibody (A01049). Aquaporin 4/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-Aquaporin 4/AQP4 Antibody (A01049) 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.



Flow Cytometry analysis of A431 cells using anti-Aquaporin 4/AQP4 antibody (A01049). Overlay histogram showing A431 cells stained with A01049 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Aquaporin 4/AQP4 Antibody (A01049, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

3 Publications Citing This Product

1. PubMed ID: PMID:24995117, Ulinastatin attenuates cerebral ischemia-reperfusion injury in rats

2. PubMed ID: 10.1055/s-0034-1368584, Neuroprotective effects of total steroid saponins on cerebral ischemia injuries in animal model of focal ischemia/reperfusion

3. PubMed ID: 10.1002/jcb.26176, Down□Regulation of AQP4 Expression via p38 MAPK Signaling in Temozolomide□Induced Glioma Cells Growth

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Inhibition and Invasion Impairment

Visit bosterbio.com/anti-aquaporin-4-aqp4-picoband-trade-antibody-a01049-boster.html to see all 3 publications.

Anti-Aquaporin 4/AQP4 Antibody

For Research Use Only. Not for use in diagnostic procedures.