

Rabbit Aquaporin 4 Polyclonal Antibody | anti-AQP4 antibody

Anti-Aquaporin 4 Antibody

CATALOG # AAA11657	HOST Rabbit	REACTIVITY Human, Mouse, Rat	APPLICATIONS Western Blot, Immunohistochemistry
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PRODUCT SYNONYMS

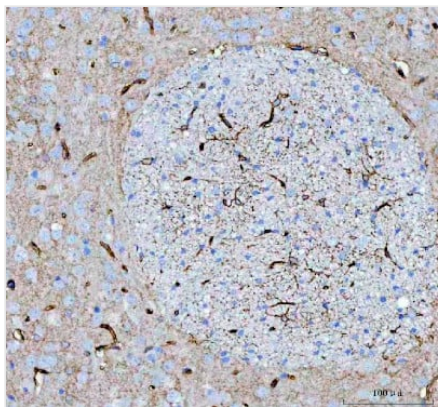
Aquaporin 4; Polyclonal Antibody; Anti-Aquaporin 4 Antibody; Aquaporin-4; AQP 4; AQP-4; AQP4; AQP4_HUMAN; Aquaporin type 4; Aquaporin4; HMIWC 2; HMIWC2; Mercurial insensitive water channel; Mercurial-insensitive water channel; MGC22454; MIWC; WCH 4; WCH4; aquaporin 4; anti-AQP4 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	No cross reactivity with other proteins
Purity/Purification	Immunogen Affinity Purified
Form/Format	Lyophilized. Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃
Sequence Length	323
Applicable Applications for anti-AQP4 antibody	WB (Western Blot), IHC (Immunohistochemistry)
Application Notes	Western Blot: Concentration: 0.1-0.5ug/ml Tested Species: Mouse, Rat Predicted Species: Human Immunohistochemistry (Paraffin-embedded Section): Concentration: 0.5-1ug/ml Tested Species: Human, Mouse, Rat Antigen Retrieval: By Heat Immunohistochemistry (Frozen Section): Concentration: 0.5-1ug/ml Tested Species: Mouse, Rat Predicted Species: Human Tested Species: In-house tested species with positive results Predicted Species: Species predicted to be fit for the product based on sequence similarities. By Heat: Boiling the paraffin sections in 10mM citrate buffer, pH 6.0, for 20mins is required for the staining of formalin/paraffin sections. Other applications have not been tested. Optimal dilutions should be determined by end users.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Aquaporin 4 (295-323aa KPGVVHVIDVDRGEEKKGKDQSGEVLSSV), different from the related mouse sequence by two amino acids, and from the related rat sequence by three amino acids.
Reconstitution	0.2ml of distilled water will yield a concentration of 500ug/ml.

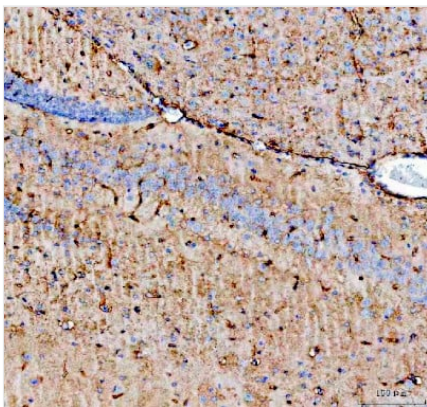
Recommended Detection Systems	We provide a series of assays reacted with primary antibodies. Antibody can be supported by chemiluminescent kit (please inquire) in Western Blot , supported in IHC(P) and IHC(F).
Preparation and Storage	Store at -20°C for one year from date of receipt. After reconstitution, 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.

IMAGES



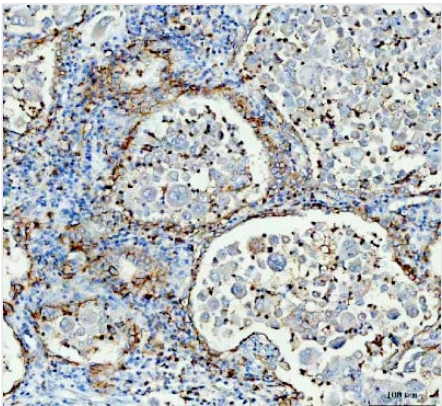
IHC (Immunohistochemistry)

IHC analysis of Aquaporin 4 using anti-Aquaporin 4 antibody (AAA11657). Aquaporin 4 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 Antibody (AAA11657) 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 # please inquire) with DAB as the chromogen.



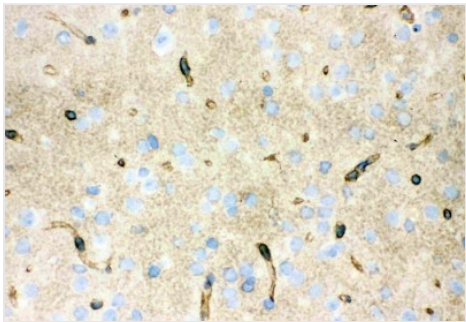
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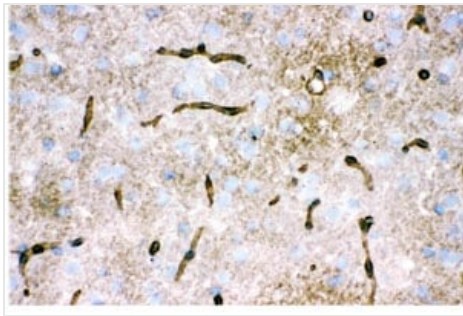
IHC (Immunohistochemistry)

IHC analysis of Aquaporin 4 using anti-Aquaporin 4 antibody (AAA11657). Aquaporin 4 was detected in a paraffin-embedded section of human lung cancer 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 Antibody (AAA11657) 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 # please inquire) with DAB as the chromogen



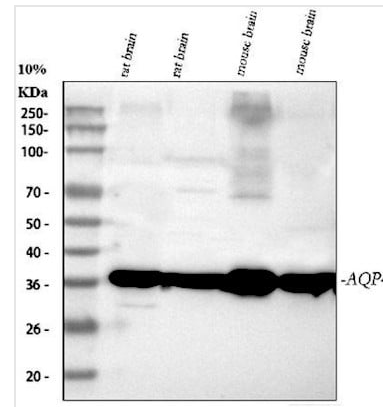
IHC (Immunohistochemistry)

IHC analysis of Aquaporin 4 using anti-Aquaporin 4 antibody (AAA11657). Aquaporin 4 was detected in frozen section of Rat Brain Tissue. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Aquaporin 4 Antibody (AAA11657) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # please inquire) with DAB as the chromogen.



IHC (Immunohistochemistry)

IHC analysis of Aquaporin 4 using anti-Aquaporin 4 antibody (AAA11657). Aquaporin 4 was detected in frozen section of Mouse Brain Tissue. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Aquaporin 4 Antibody (AAA11657) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # please inquire) with DAB as the chromogen.



WB (Western Blot)

Figure 1. Western blot analysis of Aquaporin 4 using anti-Aquaporin 4 antibody (AAA11657). 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: rat brain tissue lysates, Lane 3: mouse brain tissue lysates, Lane 4: 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 antigen affinity purified polyclonal antibody (Catalog # AAA11657) 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 at approximately 37 kDa. The expected band size for Aquaporin 4 is at 35 kDa

ADDITIONAL INFORMATION

Related Product Information for anti-AQP4 antibody	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.
References	1. Amiry-Moghaddam, M.; Otsuka, T.; Hurn, P. D.; Traystman, R. J.; Haug, F.-M.; Froehner, S. C.; Adams, M. E.; Neely, J. D.; Agre, P.; Ottersen, O. P.; Bhardwaj, A. : An alpha-syntrophin-dependent pool of AQP4 in astroglial end-feet confers bidirectional water flow between blood and brain. <i>Proc. Nat. Acad. Sci.</i> 100: 2106-2111, 2003. 2. Agre P, Nielsen S (1996). "The aquaporin family of water channels in kidney". <i>Nephrologie</i> 17 (7): 409-15. 3. Lennon, V. A.; Kryzer, T. J.; Pittock, S. J.; Verkman, A. S.; Hinson, S. R. : IgG marker of optic-spinal multiple sclerosis binds to the aquaporin-4 water channel. <i>J. Exp. Med.</i> 202: 473-477, 2005. 4. Lu, M.; Lee, M. D.; Smith, B. L.; Jung, J. S.; Agre, P.; Verdijk, M. A. J.; Merks, G.; Rijss, J. P. L.; Deen, P. M. T. : The human AQP4 gene: definition of the locus encoding two water channel polypeptides in brain. <i>Proc. Nat. Acad. Sci.</i> 93: 10908-10912, 1996. 5. Nagelhus EA, Mathiesen TM, Ottersen OP (2004). "Aquaporin-4 in the central nervous system: cellular and subcellular distribution and coexpression with KIR4.1". <i>Neuroscience</i> 129 (4): 905-13.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4502181
NCBI GeneID	361
NCBI Accession #	NP_001641.1
NCBI GenBank Nucleotide #	NM_001650.5
UniProt Accession #	P55087; P78564
NCBI Official Full Name	aquaporin-4 isoform M1

NCBI Official Synonym Full Names	aquaporin 4
NCBI Official Symbol	AQP4
NCBI Official Synonym Symbols	MIWC; WCH4
NCBI Protein Information	aquaporin-4
UniProt Protein Name	Aquaporin-4
UniProt Gene Name	AQP4
UniProt Synonym Gene Names	AQP-4; MIWC
UniProt Entry Name	AQP4_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/polyclonal/aquaporin-4-antibody-western-blot-immunohistochemistry-elisa/11657>