

# Aquaporin 4 Rabbit pAb

Aquaporin 4 Rabbit pAb

Catalog # AP52226

## Product Information

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| <b>Application</b>             | WB, IHC-P, IHC-F, IF                                                                                                                                                                                                                                                                                                                                                       |
| <b>Primary Accession</b>       | <a href="#">P55087</a>                                                                                                                                                                                                                                                                                                                                                     |
| <b>Reactivity</b>              | Rat, Human, Mouse                                                                                                                                                                                                                                                                                                                                                          |
| <b>Predicted</b>               | Pig, Rabbit, Sheep                                                                                                                                                                                                                                                                                                                                                         |
| <b>Host</b>                    | Rabbit                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Clonality</b>               | Polyclonal                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Calculated MW</b>           | 34830                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Physical State</b>          | Liquid                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Immunogen</b>               | KLH conjugated synthetic peptide derived from human AQP4                                                                                                                                                                                                                                                                                                                   |
| <b>Epitope Specificity</b>     | 271-323/323                                                                                                                                                                                                                                                                                                                                                                |
| <b>Isotype</b>                 | IgG                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Purity</b>                  | affinity purified by Protein A                                                                                                                                                                                                                                                                                                                                             |
| <b>Buffer</b>                  | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.                                                                                                                                                                                                                                                                                                          |
| <b>SUBCELLULAR LOCATION</b>    | Membrane; Multi-pass membrane protein.                                                                                                                                                                                                                                                                                                                                     |
| <b>Important Note</b>          | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.                                                                                                                                                                                                                                                  |
| <b>Background Descriptions</b> | This gene encodes a member of the aquaporin family of intrinsic membrane proteins that function as water-selective channels in the plasma membranes of many cells. The encoded protein is the predominant aquaporin found in brain. Two alternatively spliced transcript variants encoding distinct isoforms have been found for this gene. [provided by RefSeq, Jul 2008] |

## Additional Information

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| <b>Gene ID</b>     | 361                                                                                                                                                                                             |
| <b>Other Names</b> | Aquaporin-4, AQP-4, Mercurial-insensitive water channel, MIWC, WCH4, AQP4                                                                                                                       |
| <b>Dilution</b>    | WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1<br>µg /test                                                                                                               |
| <b>Storage</b>     | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |

## Protein Information

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|-------------|------|
| <b>Name</b> | AQP4 |
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|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Function</b>          | Forms a water-specific channel (PubMed: <a href="#">19383790</a> , PubMed: <a href="#">7559426</a> , PubMed: <a href="#">8601457</a> ). Plays an important role in brain water homeostasis (PubMed: <a href="#">37143309</a> ). It is involved in glymphatic solute transport and is required for a normal rate of water exchange across the blood brain interface. Required for normal levels of cerebrospinal fluid influx into the brain cortex and parenchyma along paravascular spaces that surround penetrating arteries, and for normal drainage of interstitial fluid along paravenous drainage pathways. Thereby, it is required for normal clearance of solutes from the brain interstitial fluid, including soluble beta-amyloid peptides derived from APP. Plays a redundant role in urinary water homeostasis and urinary concentrating ability (By similarity). |
| <b>Cellular Location</b> | Cell membrane; Multi-pass membrane protein. Basolateral cell membrane {ECO:0000250 UniProtKB:P55088}; Multi-pass membrane protein. Endosome membrane {ECO:0000250 UniProtKB:P47863}. Cell membrane, sarcolemma; Multi-pass membrane protein. Cell projection {ECO:0000250 UniProtKB:P47863}. Note=Activation of the vasopressin receptor AVPR1A triggers AQP4 phosphorylation at Ser-180 and promotes its internalization from the cell membrane. Detected on brain astrocyte processes and astrocyte endfeet close to capillaries {ECO:0000250 UniProtKB:P47863}                                                                                                                                                                                                                                                                                                             |
| <b>Tissue Location</b>   | Detected in skeletal muscle (PubMed:29055082). Detected in stomach, along the glandular base region of the fundic gland (at protein level) (PubMed:8601457). Detected in brain, lung and skeletal muscle, and at much lower levels in heart and ovary (PubMed:7559426, PubMed:8601457).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

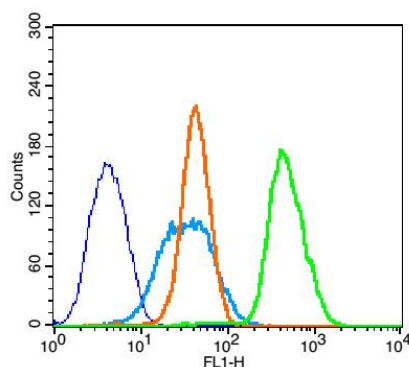
## Background

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

## References

Ma T.,et al.Genomics 33:382-388(1996).  
Turtzo L.C.,et al.Genomics 41:267-270(1997).  
Zelenin S.,et al.Pediatr. Res. 48:335-339(2000).  
Ebert L.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DBJ databases.

## Images



Blank control: K562 (blue). Primary Antibody:Rabbit Anti-Aquaporin 4 antibody (AP52226,Green); Dilution: 1 µg in 100 µL 1X PBS containing 0.5% BSA; Isotype Control Antibody: Rabbit IgG(orange) ,used under the same conditions; Secondary Antibody: Goat anti-rabbit IgG-FITC(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA.

### Protocol

The cells were fixed with 2% paraformaldehyde for 10 min at 37°C. Primary antibody (AP52226, 1 µg /1x10<sup>6</sup> cells) were incubated for 30 min at room temperature, followed by 1 X PBS containing 0.5% BSA + 10% goat serum (15min) to block non-specific protein-protein

interactions. Then the Goat Anti-rabbit IgG/FITC antibody was added into the blocking buffer mentioned above to react with the primary antibody at 1/200 dilution for 30 min at room temperature. Acquisition of 20,000 events was performed.

#### Sample:

Lane 1: Rat Cerebrum tissue lysates

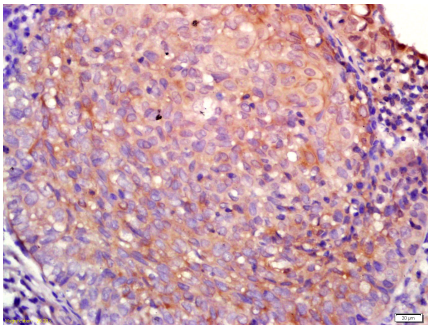
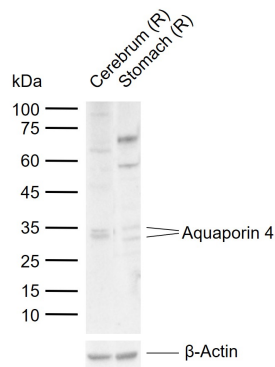
Lane 2: Rat Stomach tissue lysates

Primary: Anti-Aquaporin 4 (AP52226) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 36 kDa

Observed band size: 34,32 kDa



Tissue/cell: human laryngocarcinoma; 4%

Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer ( 0.01M, pH 6.0 ), Boiling

bathing for 15min; Block endogenous peroxidase by 3%

Hydrogen peroxide for 30min; Blocking buffer (normal

goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-AQP4 Polyclonal Antibody,

Unconjugated(AP52226) 1:200, overnight at 4°C, followed

by conjugation to the secondary antibody(SP-0023) and

DAB(C-0010) staining

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.