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Aquaporin 4 Rabbit pAb

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Catalog # AP52226

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P55087
Reactivity	Rat, Human, Mouse
Predicted	Pig, Rabbit, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	34830
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human AQP4
Epitope Specificity	271-323/323
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Multi-pass membrane protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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

Gene ID	361
Other Names	Aquaporin-4, AQP-4, Mercurial-insensitive water channel, MIWC, WCH4, AQP4
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1 g /test
Storage	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

Name	AQP4

Function	Forms a water-specific channel (PubMed: 19383790, PubMed:7559426, PubMed:8601457). Plays an important role in brain water homeostasis (PubMed:37143309). 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).
Cellular Location	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}
Tissue Location	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

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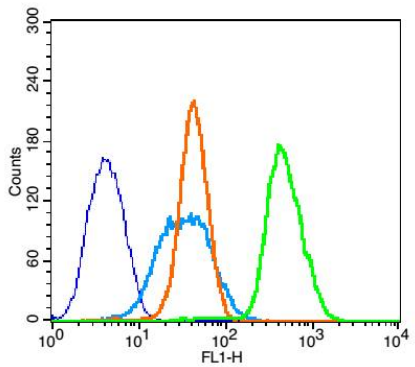
References

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/DDBJ databases.

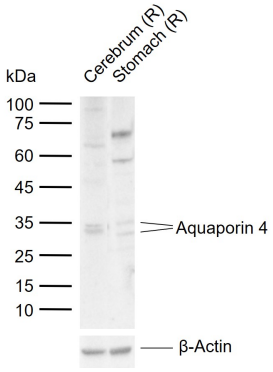
Images



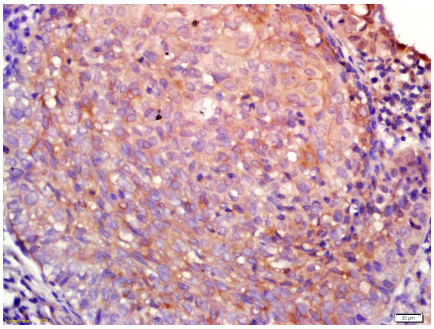
Blank control: K562 (blue). Primary Antibody:Rabbit Anti-Aquaporin 4 antibody (AP52226,Green); Dilution: 1 µg in 100 µL 1X PBS containing 0.5% BSA; Isotype Control Antibody: Rabbit IgG(orange) ,used under the same conditions; Secondary Antibody: Goat anti-rabbit IgG-FITC(white blue), Dilution: 1:200 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 /1x10^6 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℃ 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'.