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Anti-Aquaporin 4 Picoband Antibody

Catalog # ABO12163

Product Information

Application	WB, IHC-P, IHC-F
Primary Accession	P55087
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Aquaporin-4(AQP4) detection. Tested with WB, IHC-P, IHC-F in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	361
Other Names	Aquaporin-4, AQP-4, Mercurial-insensitive water channel, MIWC, WCH4, AQP4
Calculated MW	34830
Application Details	Immunohistochemistry(Frozen Section), 0.5-1 □g/ml, Mouse, Rat, Human Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Mouse, Rat, Human
Subcellular Localization	Membrane; Multi-pass membrane protein.
Tissue Specificity	Brain - muscle >> heart, kidney, lung, and trachea.
Source	Eukaryota
Protein Name	Aquaporin-4
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
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.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the MIP/aquaporin (TC 1.A.8) family.

Protein Information

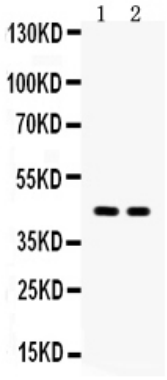
Name	AQP4
Function	Forms a water-specific channel (PubMed: 19383790, PubMed:7559426, PubMed:8601457). Plays an important role in brain water homeostasis (PubMed:37143309). It is involved in glymphatic solute transport and is required for a normal rate of water exchange across the blood brain interface. 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).

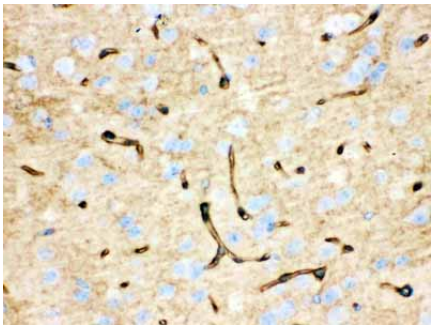
Background

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.

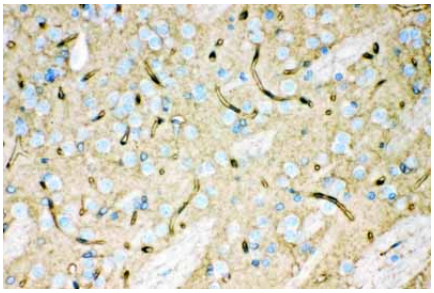
Images

Anti- Aquaporin 4 Picoband antibody, ABO12163, Western blottingAll lanes: Anti Aquaporin 4 (ABO12163) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Mouse Brain Tissue Lysate at 50ugPredicted bind size: 35KDObserved bind size: 45KD

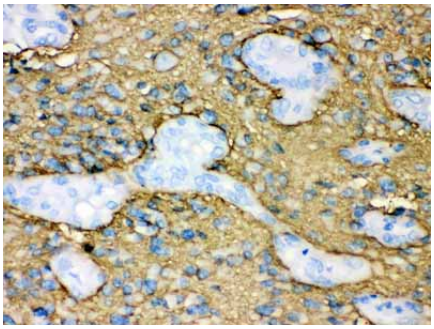




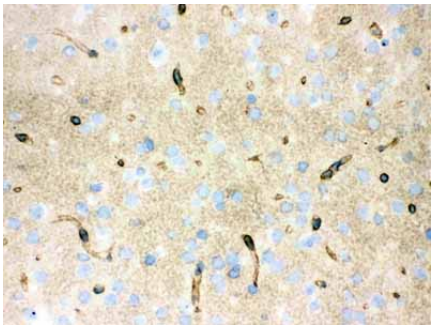
Anti- Aquaporin 4 Picoband antibody, ABO12163, IHC(P)IHC(P): Mouse Brain Tissue



Anti- Aquaporin 4 Picoband antibody, ABO12163, IHC(P)IHC(P): Rat Brain Tissue

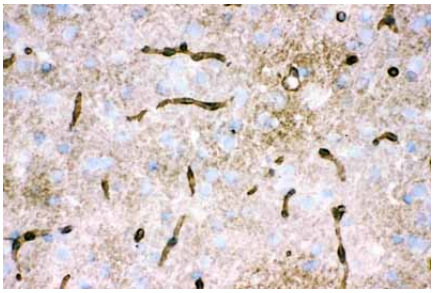


Anti- Aquaporin 4 Picoband antibody, ABO12163, IHC(P)IHC(P): Human Glioma Tissue



Anti- Aquaporin 4 Picoband antibody, ABO12163, IHC(F)IHC(F): Mouse Brain Tissue

Anti- Aquaporin 4 Picoband antibody, ABO12163, IHC(F)IHC(F): Rat Brain Tissue



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