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Anti-Aquaporin 4 Antibody

Catalog # ABO11240

Product Information

Application	WB, IHC-P
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 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(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat, Mouse, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
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 Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Aquaporin 4(258-274aa FKRRFKEAFSKAAQQTK), different from the related rat and mouse sequences by two 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

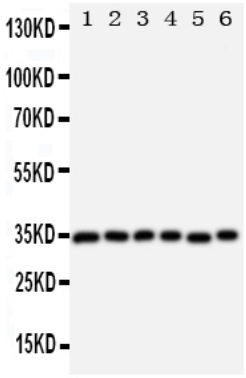
Name	AQP4
Function	Forms a water-specific channel (PubMed: 19383790, PubMed:7559426, PubMed:8601457). Plays an important role in brain water homeostasis (PubMed:37143309). It is involved in glymphatic solute transport and is required for a normal rate of water exchange across the blood brain interface.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

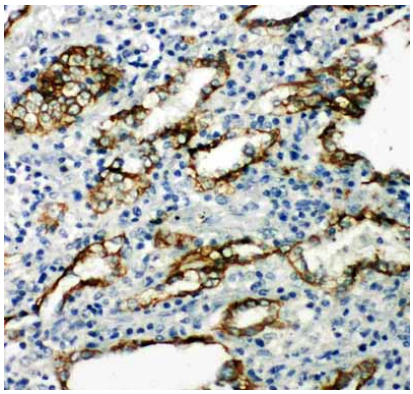
Background

AQP4(Aquaporin 4), also known as MERCURIAL-INSENSITIVE WATER CHANNEL; MIWC, is protein which in humans is encoded by the AQP4 gene. The aquaporins are a family of water-selective membrane channels found in animals, plants, and microorganisms. AQP4 is the predominant water channel in the brain and has an important role in brain water homeostasis. By fluorescence in situ hybridization, Lu et al.(1996) determined that the AQP4 gene maps to 18q11.2-q12.1. By interspecific backcross analysis, Turtzo et al.(1997) mapped the mouse Aqp4 gene to the proximal region of chromosome 18. Analyzing the expression of AQP4 in mammalian skeletal muscle, Frigeri et al.(1998) found that, in immunohistochemical experiments, affinity-purified AQP4 antibodies stained selectively the sarcolemma of fast-twitch fibers. Immunocytochemistry revealed strong AQP4 water channel expression in Muller cells in mouse retina and in fibrous astrocytes in optic nerve.

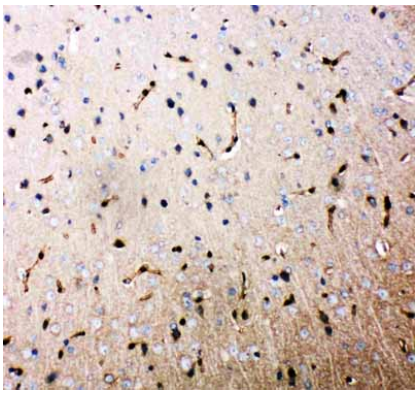
Images

Anti-Aquaporin 4 antibody, ABO11240, Western blottingLane 1: Rat Heart Tissue LysateLane 2: Rat Brain Tissue LysateLane 3: Rat Kidney Tissue LysateLane 4: HT1080 Cell Lysate Lane 5: MCF-7 Cell LysateLane 6: COLO320 Cell Lysate





Anti-Aquaporin 4 antibody, ABO11240, IHC(P)IHC(P): Human Lung Cancer Tissue



Anti-Aquaporin 4 antibody, ABO11240, IHC(P)IHC(P): Rat Brain Tissue

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