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AQP4 Antibody

Rabbit mAb
Catalog # AP91168

Product Information

Application	IHC
Primary Accession	P55087
Reactivity	Rat, Human
Clonality	Monoclonal
Other Names	AQP4; Aquaporin type 4; HMIWC2; Mercurial insensitive water channel; MIWC; WCH4;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	34830

Additional Information

Dilution	IHC 1:50~1:200
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human AQP4
Description	Forms a water-specific channel. Osmoreceptor which regulates body water balance and mediates water flow within the central nervous system.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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).