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AQP4 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50937

Product Information

Application	WB
Primary Accession	P55087
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	34830

Additional Information

Gene ID	361
Other Names	Aquaporin-4, AQP-4, Mercurial-insensitive water channel, MIWC, WCH4, AQP4
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human Aquaporin 4. The exact sequence is proprietary.
Dilution	WB~~ 1:500
Format	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.09% (W/V) sodium azide and 52% glycerol
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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).

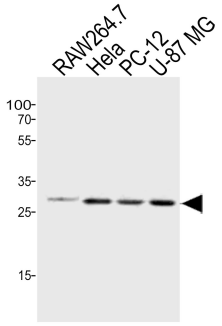
Background

Forms a water-specific channel. Osmoreceptor which regulates body water balance and mediates water flow within the central nervous system.

References

Yang B.,et al.J. Biol. Chem. 270:22907-22913(1995).
Misaka T.,et al.FEBS Lett. 381:208-212(1996).
Lu M.,et al.Proc. Natl. Acad. Sci. U.S.A. 93:10908-10912(1996).
Nusbaum C.,et al.Nature 437:551-555(2005).
Lanciotti A.,et al.Hum. Mol. Genet. 21:2166-2180(2012).

Images



Western blot analysis of lysates from mouse RAW264.7,Hela,rat PC-12,U-87 MG cell line (from left to right), using AQP4 Antibody(AP50937). AP50937 was diluted at 1:500 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.

Citations

- Atorvastatin ameliorates early brain injury through inhibition of apoptosis and ER stress in a rat model of subarachnoid hemorrhage.

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