

Aquaporin 4 Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP50991

Product Information

Application WB, IP, IHC-P **Primary Accession** P55087

Reactivity Human, Mouse, Rat

HostRabbitClonalityPolyclonalCalculated MW34830

Additional Information

Gene ID 361

Other Names Aquaporin-4, AQP-4, Mercurial-insensitive water channel, MIWC, WCH4, AQP4

Dilution WB~~1:1000 IP~~N/A IHC-P~~N/A

Format 0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

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).

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