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AQP1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17893b

Product Information

Application	WB, E
Primary Accession	P29972
Other Accession	P29975, Q02013, P47865, NP_932766.1
Reactivity	Human, Mouse
Predicted	Bovine, Rat, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB26795
Calculated MW	28526
Antigen Region	241-269

Additional Information

Gene ID	358
Other Names	Aquaporin-1, AQP-1, Aquaporin-CHIP, Urine water channel, Water channel protein for red blood cells and kidney proximal tubule, AQP1, CHIP28
Target/Specificity	This AQP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 241-269 amino acids from the C-terminal region of human AQP1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	AQP1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AQP1 (HGNC:633)
Function	Forms a water channel that facilitates the transport of water across cell membranes, playing a crucial role in water homeostasis in various tissues

(PubMed:1373524, PubMed:23219802). Could also be permeable to small solutes including hydrogen peroxide, glycerol and gases such as amonnia (NH3), nitric oxide (NO) and carbon dioxide (CO2) (PubMed:16682607, PubMed:17012249, PubMed:19273840, PubMed:33028705, PubMed:8584435). Recruited to the ankyrin-1 complex, a multiprotein complex of the erythrocyte membrane, it could be part of a CO2 metabolon, linking facilitated diffusion of CO2 across the membrane, anion exchange of Cl(-)/HCO3(-) and interconversion of dissolved CO2 and carbonic acid in the cytosol (PubMed:17012249, PubMed:35835865). In vitro, it shows non-selective gated cation channel activity and may be permeable to cations like K(+) and Na(+) in vivo (PubMed:36949749, PubMed:8703053).

Cellular Location Cell membrane; Multi-pass membrane protein

Tissue Location Detected in erythrocytes (at protein level). Expressed in a number of tissues including erythrocytes, renal tubules, retinal pigment epithelium, heart, lung, skeletal muscle, kidney and pancreas. Weakly expressed in brain, placenta and liver

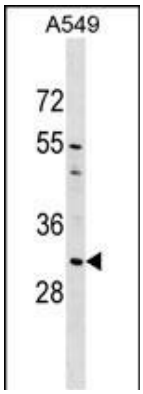
Background

Aquaporins are a family of small integral membrane proteins related to the major intrinsic protein (MIP or AQP0). This gene encodes an aquaporin which functions as a molecular water channel protein. It is a homotetramer with 6 bilayer spanning domains and N-glycosylation sites. The protein physically resembles channel proteins and is abundant in erythrocytes and renal tubes. The gene encoding this aquaporin is a possible candidate for disorders involving imbalance in ocular fluid movement. Several transcript variants encoding different isoforms have been found for this gene.

References

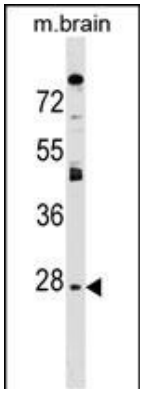
Chen, L.M., et al. Am. J. Physiol. Regul. Integr. Comp. Physiol. 299 (5), R1163-R1174 (2010) :
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Shankardas, J., et al. Mol. Vis. 16, 1538-1548 (2010) :
Halverson, G.R., et al. Immunohematology 26(1):22-26(2010)
Sui, H., et al. Nature 414(6866):872-878(2001)

Images



AQP1 Antibody (C-term) (Cat. #AP17893b) western blot analysis in A549 cell line lysates (35ug/lane).This demonstrates the AQP1 antibody detected the AQP1 protein (arrow).

AQP1 Antibody (C-term) (Cat. #AP17893b) western blot analysis in mouse brain tissue lysates (35ug/lane).This demonstrates the AQP1 antibody detected the AQP1 protein (arrow).



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