

Anti-Aquaporin 2/AQP2 Antibody Picoband® APC Conjugated

Catalog Number: PA1742-APC

About AQP2

AQP2 (Aquaporin 2) also called AQUAPORIN-CD, is found in the apical cell membranes of the kidney's collecting duct principal cells and in intracellular vesicles located throughout the cell. The AQP2 gene is mapped to chromosome 12q13, very close to the site of major intrinsic protein by situ hybridization. The investigators suggested that a defect in the AQP2 gene is the basis of the autosomal form of nephrogenic diabetes insipidus. The functional expression and the limited localization suggested that AQP2 is the vasopressin-regulated water channel. Using rat kidney slices and porcine kidney cells stably expressing rat Aqp2, AQP2 trafficking can be stimulated by cAMP-independent pathways that utilize nitric oxide (NO). The NO donors sodium nitroprusside (SNP) and NONOate and the NO synthase substrate L-arginine mimicked the effect of vasopressin (VP), stimulating relocation of Aqp2 from cytoplasmic vesicles to the apical plasma membrane. SNP increased intracellular cGMP rather than cAMP, and exogenous cGMP stimulated AQP2 membrane insertion. Atrial natriuretic factor, which signals via cGMP, also stimulated AQP2 translocation. AQP2 expression in kidney connecting tubules is sufficient for survival and that AQP2 expression in collecting ducts is required to regulate body water balance. The S256L substitution in the cytoplasmic tail of the Aqp2 protein prevented phosphorylation at S256 and the subsequent accumulation of Aqp2 on the apical membrane of the collecting duct principal cells.

Overview

Product Name	Anti-Aquaporin 2/AQP2 Antibody Picoband® APC Conjugated
Reactive Species	Human, Mouse, Rat
Application	Recommended applications are based on the parent unconjugated antibody (IHC, WB). Customers may select suitable applications according to their experimental needs.
Clonality	Polyclonal
Formulation	Each vial contains 50% glycerol, 0.9% NaCl, 0.2% Na ₂ HPO ₄ , 0.02% NaN ₃ .
Storage Instructions	At -20°C for one year from date of receipt. Avoid repeated freezing and thawing. Protect from light.
Host	Rabbit
Uniprot ID	P41181

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Aquaporin 2, identical to the related rat and mouse sequences.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Liquid
Concentration	0.5 mg/mL

Purification	Immunogen affinity purified.
Conjugate	APC Excitation Wavelength: 633-647 nm Emission Wavelength: 660 nm
Suggested Dilutions	Optimal dilutions should be determined by end users.

2 Publications Citing This Product

1. PubMed ID: 26261083, Expression pattern of aquaporins in patients with primary nephrotic syndrome with edema
2. PubMed ID: 21824173, Cui Wy, Tian Ay, Bai T. Clin Exp Pharmacol Physiol. 2011 Nov;38(11):747-54. Doi: 10.1111/J.1440-1681.2011.05584.X. Protective Effects Of Propofol On Endotoxemia-Induced Acute Kidney Injury In Rats.

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