Product datasheet

Anti-AQP2 Antibody

Catalog Number: *PB9474*

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Basic Information

Product Name	Anti-AQP2 Antibody
Gene Name	AQP2
Source	Rabbit
Clonality	Polyclonal
Isotype	IgG
Species Reactivity	human, mouse, rat
Tested Application	WB, IHC, FCM
Contents	500 ug/ml antibody with PBS, 0.02% NaN3, 1 mg/ml BSA and 50% glycerol.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Aquaporin 2, different from the related mouse and rat sequences by one amino acid.
Concentration	500 ug/ml
Purification	Immunogen affinity purified.
Observed MW	26-37 kDa
Dilution Ratios	Western blot (WB): 1:500-2000 Immunohistochemistry (IHC): 1:50-400 Flow Cytometry (Fixed): 1:50-200 (Boiling the paraffin sections in 10mM citrate buffer,pH6.0,or PH8.0 EDTA repair liquid for 20 mins is required for the staining of formalin/paraffin sections.) Optimal working dilutions must be determined by end user.

Storage

12 months from date of receipt，-20℃ as supplied.

Background Information

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

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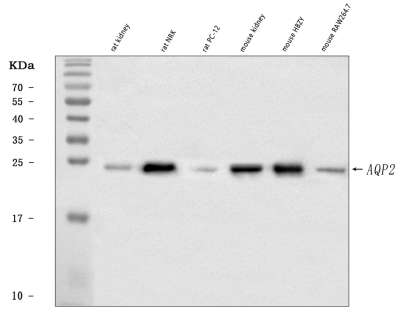
translocation. AQP2 expression in kidney connecting tubules is sufficient for survival and that AQP2 expression in collecting ducts is required to regulate body water balance. The S256L substitution in the cytoplasmic tail of the Aqp2 protein prevented phosphorylation at S256 and the subsequent accumulation of Aqp2 on the apical membrane of the collecting duct principal cells.

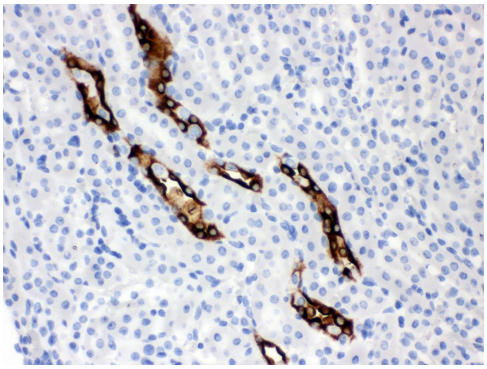
Reference

Anti-AQP2 Antibody被引用在6文献中。

Selected Validation Data



Western blot analysis of AQP2 using anti-AQP2 antibody (PB9474). The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: rat kidney tissue lysates,
Lane 2: rat RNK whole cell lysates,
Lane 3: rat PC-12 whole cell lysates,
Lane 4: mouse kidney tissue lysates,
Lane 5: mouse HBZY whole cell lysates,
Lane 6: mouse RAW264.7 whole cell lysates.
After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-AQP2 antigen affinity purified polyclonal antibody (PB9474) at a dilution of 1:1000 and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054). The signal is developed using ECL Plus Western Blotting Substrate (Catalog # AR1197). A specific band was detected for AQP2 at approximately 26-37 kDa. The expected band size for AQP2 is at 29 kDa.



IHC analysis of AQP2 using anti-AQP2 antibody (PB9474).
AQP2 was detected in a paraffin-embedded section of Mouse Kidney tissue. Biotinylated goat anti-rabbit IgG was used as secondary antibody. The tissue section was incubated with rabbit anti-AQP2 Antibody (PB9474) at a dilution of 1:200 and developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB (Catalog # AR1027) as the chromogen.

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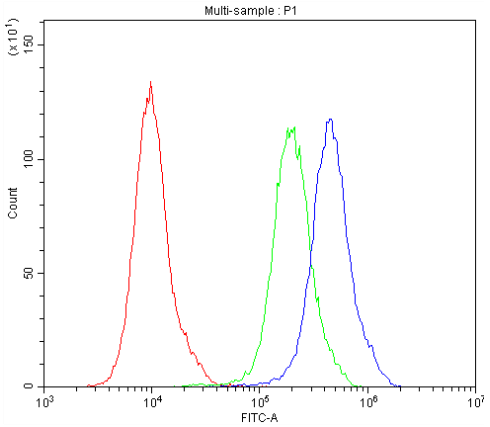

Flow Cytometry analysis of PC-3 cells using anti-AQP2 antibody (PB9474). Overlay histogram showing PC-3 cells stained with PB9474 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-AQP2 Antibody (PB9474) at 1:100 dilution for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG at 1:100 dilution used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.