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antibody and ELISA experts

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Anti-Aquaporin 2/AQP2 Antibody Picoband®

Catalog Number: PA1742

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®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Aquaporin 2/AQP2 Antibody catalog # PA1742. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P41181

Technical Details

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Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Aquaporin 2, identical to the related rat and mouse sequences.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and IHC(F).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Rat, Human, Mouse Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Rat, Human, Mouse Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat

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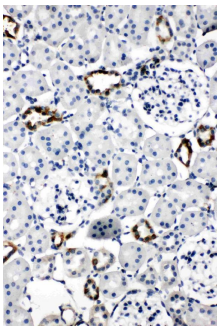
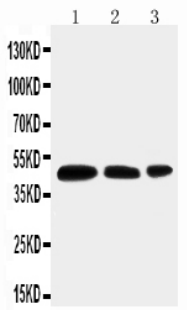
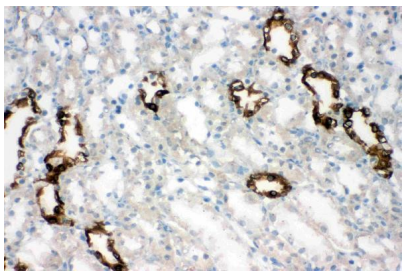
Anti-Aquaporin 2/AQP2 Antibody Picoband® (PA1742) Images



Anti-Aquaporin 2 antibody, PA1742, IHC(P)IHC(P): Rat Kidney Tissue



Anti-Aquaporin 2 antibody, PA1742, Western blottingLane 1: MCF-7 Cell LysateLane 2: SW620 Cell LysateLane 3: HT1080 Cell Lysate



Anti-Aquaporin 2 antibody, PA1742, IHC(F)IHC(F): Rat Kidney Tissue

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.

Visit bosterbio.com/anti-aquaporin-2-antibody-pa1742-boster.html to see all 2 publications.

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