BOSTER
antibody and ELISA experts

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

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.

Submit a product review to Biocompare.com

Submit a review of this product to Biocompare.com to receive a $20 Amazon.com giftcard! Your reviews help your fellow scientists make the right decisions. Thank you for your contribution.

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.

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

Host	Rabbit
Uniprot ID	P41181

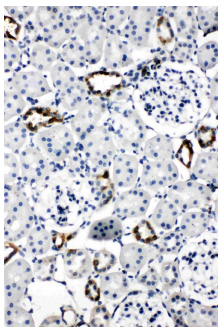
Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Aquaporin 2, identical to the related rat and mouse sequences.
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

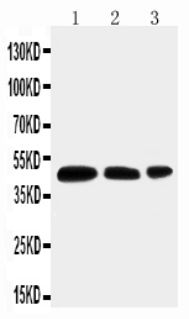
BOSTER
antibody and ELISA experts

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

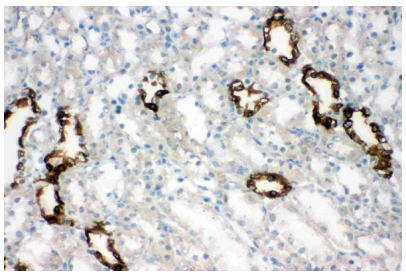
Anti-Aquaporin 2/AQP2 Antibody Picoband® (PA1742) Images



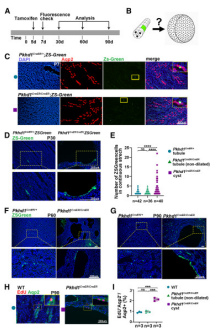
Anti-Aquaporin 2 antibody, PA1742, IHC(P)IHC(P): Rat Kidney Tissue



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



Lineage tracing renal epithelial cells in cyst growth in Pkhd1 CreER/CreER ; ZS-Green rats Show full caption (A and B) Schematic drawing of the design of lineage tracing, individual cells were labeled at the tubule stage before cyst formation. (C) Immuno-fluorescence of anti-Aqp2 (red) on kidney sections of Pkhd1 CreERl+ ; ZS-Green and Pkhd1 CreERlCreER ; ZS-Green rats at P7 induced with corn oil or tamoxifen with a dose of 200 mg/kg intraperitoneally injected at P5. (D) Images of kidney sections of Pkhd1 CreER/+ ; ZS-Green (n = 3) and Pkhd1 CreER/CreER ; ZS-Green (n = 7) rats at P30 induced with tamoxifen at P5. (E) Aggregated data on the number of ZSGreen cells in continuous stretch in the tubules of Pkhd1 CreER/+ ; ZS-Green (n = 42), non-dilated tubules of Pkhd1 CreER/CreER ; ZS-Green (n = 36), and cysts of Pkhd1 CreER/CreER ; ZS-Green (n = 40) kidney. Continuous stretch from 3 Pkhd1 CreER/+ ; ZS-Green and 7 Pkhd1 CreER/CreER ; ZS-Green rats. (F and G) Images of kidney sections of Pkhd1 CreER/+ ; ZS-Green (n = 3) and Pkhd1 CreER/CreER ; ZS-Green (n = 3) rats at P60 (F) and P90 (G) induced with tamoxifen at P5. (H) Immuno-fluorescence using anti-EdU (red) and anti-Aqp2 (green) antibodies on the sections of WT and Pkhd1

CreER/CreER rats injected with EdU 3 h before sacrifice. (I) Aggregated data of the ratio of EdU+ nuclei in the control and cyst lining Aqp2+ cells in WT (n = 3) and Pkhd1 CreER/CreER (n = 3) rats at P90. Error bars represent mean ± s.e.m, ∗ p < 0.05, ∗∗ p < 0.01, and ∗∗∗ p < 0.001 by two-way ANOVA (E and I). Scale bars, 400 um (C); 200 um (D, F, G, and H).Source: Shuncheng Liu et al. Licensed under CC BY 4.0. PMID: 42305588.

2 Publications Citing This Product

1. 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.

2. PubMed ID: 26261083, Expression pattern of aquaporins in patients with primary nephrotic syndrome with edema

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

For Research Use Only. Not for use in diagnostic procedures.