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Anti-Aquaporin 1 Antibody
Catalog # ABO10505

Specification

Anti-Aquaporin 1 Antibody - Product Information

Application	**WB, IHC-P, IHC-F**
Primary Accession	P29972
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Aquaporin-1(AQP1) detection. Tested with WB, IHC-P, IHC-F in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Aquaporin 1 Antibody - 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

Calculated MW
28526 MW KDa

Application Details
Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Rat, Human, Mouse
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization
Cell membrane ; Multi-pass membrane protein .

Tissue Specificity
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. .

Protein Name
Aquaporin-1(AQP-1)

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human Aquaporin 1(251-269aa EEYDLDADDINSRVEMKPK), identical to the related rat and mouse sequences.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Sequence Similarities
Belongs to the MIP/aquaporin (TC 1.A.8) family.

Anti-Aquaporin 1 Antibody - 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

Anti-Aquaporin 1 Antibody - Protocols

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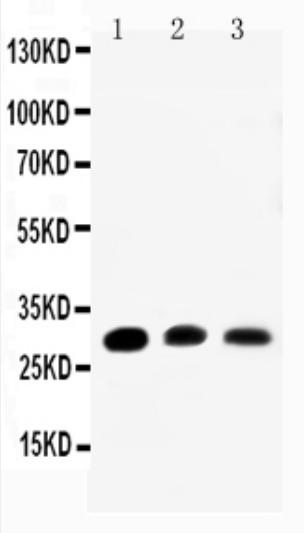
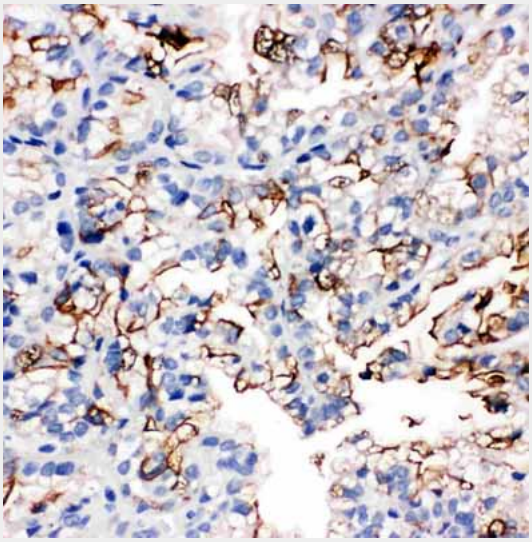
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Aquaporin 1 Antibody - Images



Anti-Aquaporin 1 antibody, ABO10505, Western blottingLane 1: Rat Kidney Tissue LysateLane 2: Rat Lung Tissue LysateLane 3: SMMC Cell Lysate



Anti-Aquaporin 1 antibody, ABO10505, IHC(P)IHC(P): Human Kidney Cancer Tissue

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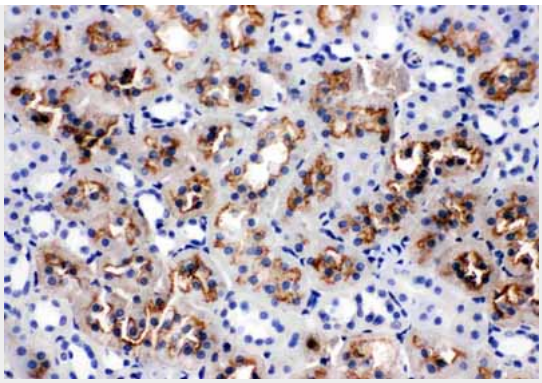
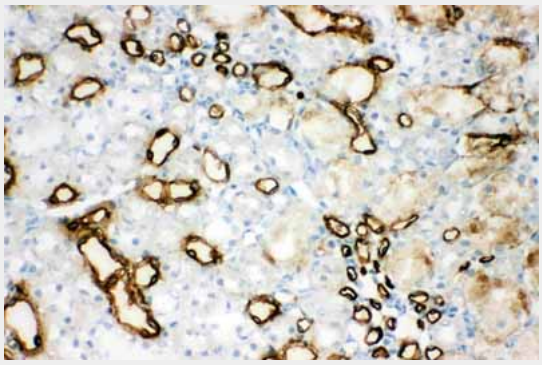


Anti-Aquaporin 1 antibody, ABO10505, IHC(P)IHC(P): Rat Kidney Tissue



Anti-Aquaporin 1 antibody, ABO10505, IHC(F)IHC(F): Rat Kidney Tissue

Anti-Aquaporin 1 Antibody - Background

Aquaporin 1 is a 28-kD integral protein though at first to be a breakdown product of the Rh polypeptide but was later shown to be a unique molecule that is abundant in erythrocytes and renal tubules. AQP1 is also expressed by the choroid plexus and various other tissues. It forms a water-specific channel that provides the plasma membranes of red cells and kidney proximal tubules with high permeability to water, thereby permitting water to move in the direction of an osmotic gradient.