

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 EEYDLDDADDINSRVEMKPK), 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 reconstitution, 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](http://www.uniprot.org/citations/1373524), PubMed: [23219802](http://www.uniprot.org/citations/23219802)). Could also be permeable to small solutes including hydrogen peroxide, glycerol and gases such as ammonia (NH₃), nitric oxide (NO) and carbon dioxide (CO₂) (PubMed: [16682607](http://www.uniprot.org/citations/16682607), PubMed: [17012249](http://www.uniprot.org/citations/17012249), PubMed: [19273840](http://www.uniprot.org/citations/19273840), PubMed: [33028705](http://www.uniprot.org/citations/33028705), PubMed: [8584435](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/17012249), PubMed: [35835865](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/36949749), PubMed: [8703053](http://www.uniprot.org/citations/8703053)).

Cellular Location

Cell membrane; Multi-pass membrane protein

Tissue Location

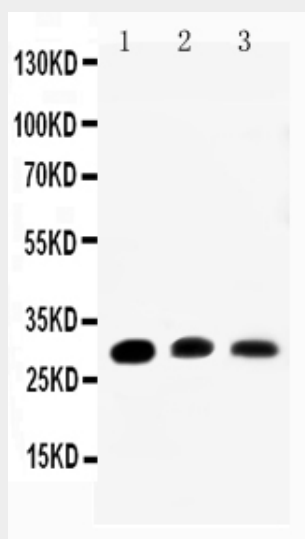
Detected in erythrocytes (at protein level). Expressed in a number of tissues including erythrocytes, renal tubules, retinal pigment epithelium, heart, lung, skeletal muscle, kidney and pancreas. Weakly expressed in brain, placenta and liver

Anti-Aquaporin 1 Antibody - Protocols

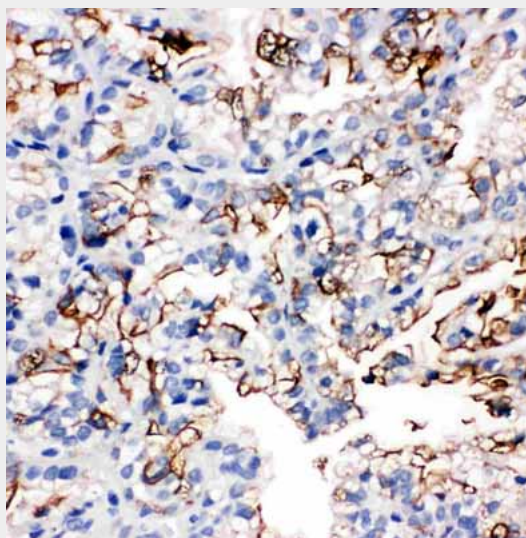
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

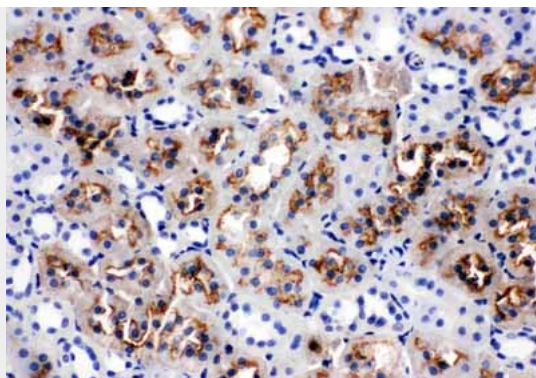
Anti-Aquaporin 1 Antibody - Images



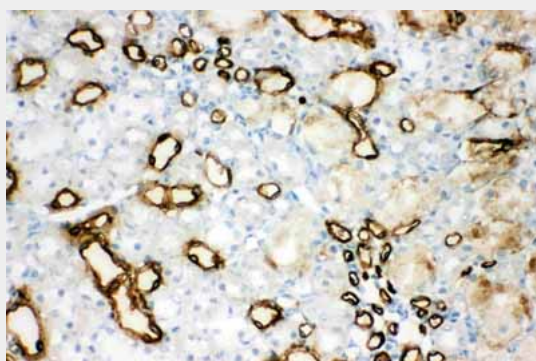
Anti-Aquaporin 1 antibody, ABO10505, Western blotting Lane 1: Rat Kidney Tissue Lysate Lane 2: Rat Lung Tissue Lysate Lane 3: SMMC Cell Lysate



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



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.