

**Anti-Aquaporin 1 Antibody**  
**Catalog # ABO10505****Specification**

---

**Anti-Aquaporin 1 Antibody - Product Information**

Application	WB, IHC-P, IHC-F
Primary Accession	<a href="#">P29972</a>
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<br>Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat<br>

**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 Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**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 (NH<sub>3</sub>), nitric oxide (NO) and carbon dioxide (CO<sub>2</sub>) (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 CO<sub>2</sub> metabolon, linking facilitated diffusion of CO<sub>2</sub> across the membrane, anion exchange of Cl<sup>-</sup>/HCO<sub>3</sub><sup>-</sup> and interconversion of dissolved CO<sub>2</sub> 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<sup>+</sup> and Na<sup>+</sup> 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**

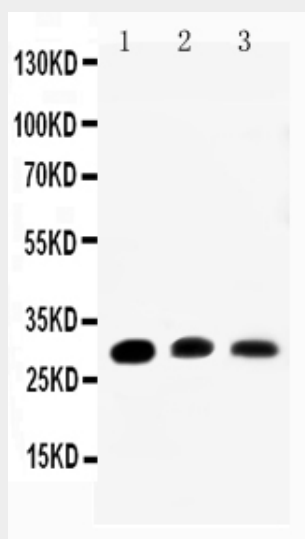
Detected in erythrocytes (at protein level). Expressed in a number of tissues including erythrocytes, renal tubules, retinal pigment epithelium, heart, lung, skeletal muscle, kidney and pancreas. Weakly expressed in brain, placenta and liver

**Anti-Aquaporin 1 Antibody - Protocols**

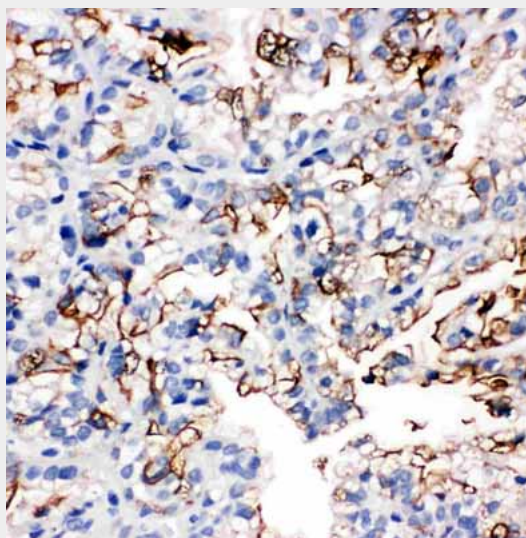
Provided below are standard protocols that you may find useful for product applications.

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

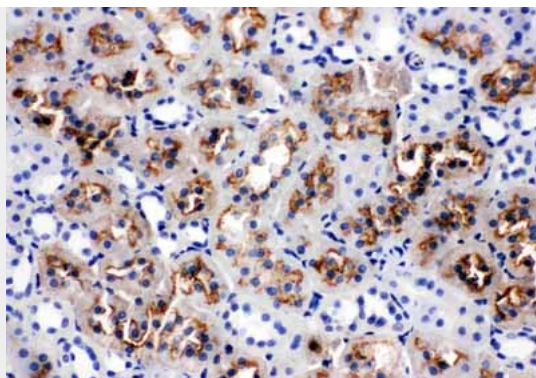
#### Anti-Aquaporin 1 Antibody - Images



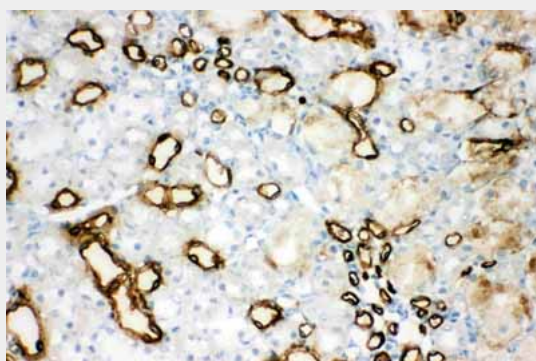
Anti-Aquaporin 1 antibody, ABO10505, Western blotting  
Lane 1: Rat Kidney Tissue Lysate  
Lane 2: Rat Lung Tissue Lysate  
Lane 3: SMMC Cell Lysate



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.