

AQP2 Antibody
Catalog # ASC11742**Specification****AQP2 Antibody - Product Information**

Application	WB, IHC-P, IF, E
Primary Accession	P41181
Other Accession	NP_000477 , 4502179
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 30 kDa

Application Notes	Observed: 28 kDa KDa AQP2 antibody can be used for detection of AQP2 by Western blot at 1 - 2 µg/ml. Antibody can also be used for Immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.
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AQP2 Antibody - Additional InformationGene ID **359****Target/Specificity**

AQP2; AQP2 antibody is human, mouse and rat reactive. This antibody is predicted to not cross-react with other members of the aquaporin protein family.

Reconstitution & Storage

AQP2 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

Precautions

AQP2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

AQP2 Antibody - Protein InformationName AQP2 ([HGNC:634](#))**Function**

Forms a water-specific channel that provides the plasma membranes of renal collecting duct with high permeability to water, thereby permitting water to move in the direction of an osmotic gradient (PubMed:15509592, PubMed:7510718, PubMed:7524315, PubMed:8140421, PubMed:8584435). Plays an essential role in renal water homeostasis (PubMed:15509592, PubMed:7524315, PubMed:8140421). Could also be permeable to glycerol (PubMed:8584435).

Cellular Location

Apical cell membrane; Multi-pass membrane protein. Basolateral cell membrane {ECO:0000250|UniProtKB:P34080}; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Cytoplasmic vesicle membrane; Multi-pass membrane protein. Golgi apparatus, trans-Golgi network membrane; Multi-pass membrane protein. Note=Shuttles from vesicles to the apical membrane (PubMed:15509592). Vasopressin-regulated phosphorylation is required for translocation to the apical cell membrane (PubMed:15509592). PLEKHA8/FAPP2 is required to transport AQP2 from the TGN to sites where AQP2 is phosphorylated (By similarity) {ECO:0000250|UniProtKB:P34080, ECO:0000269|PubMed:15509592}

Tissue Location

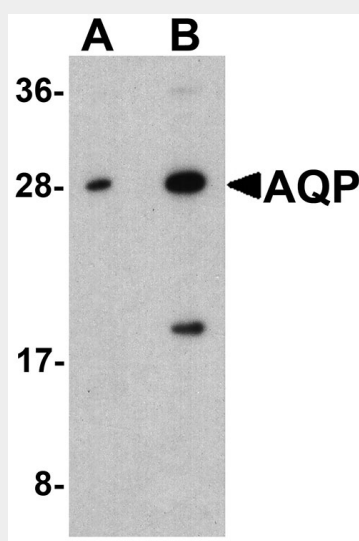
Expressed in collecting tubules in kidney medulla (at protein level) (PubMed:7510718). Detected in kidney (PubMed:7510718).

AQP2 Antibody - Protocols

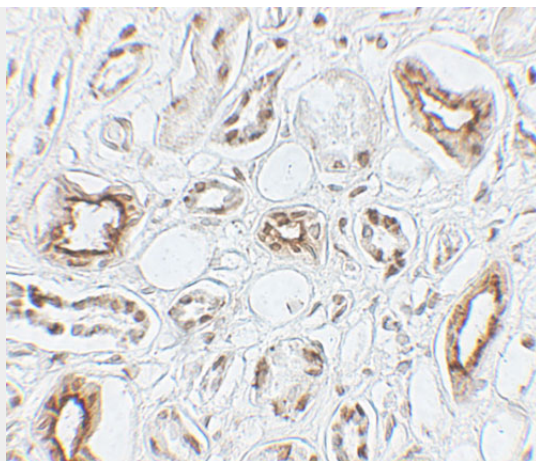
Provided below are standard protocols that you may find useful for product applications.

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

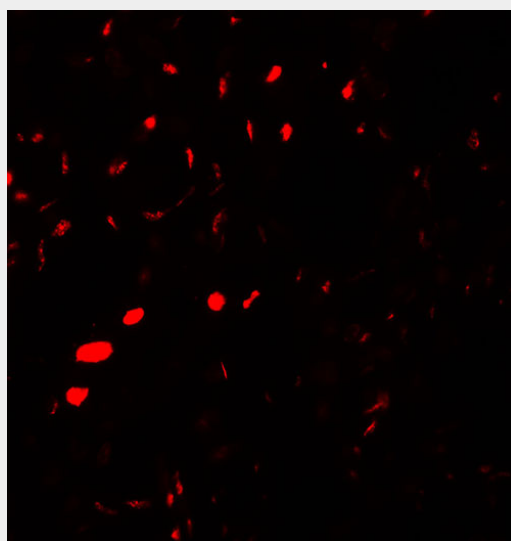
AQP2 Antibody - Images



Western blot analysis of AQP2 in A431 cell lysate with AQP2 antibody at (A) 1 and (B) 2 µg/ml.



Immunohistochemistry of AQP2 in human kidney tissue with AQP2 antibody at 5 µg/mL.



Immunofluorescence of AQP2 in human kidney tissue with AQP2 antibody at 20 µg/mL.

AQP2 Antibody - Background

Aquaporins are membrane proteins that serve in the transfer of water and small solutes across cellular membranes. One such aquaporin, aquaporin-2 (AQP2) is located in the kidney collecting tubule and plays a critical role in water reabsorption (1). AQP2 is mainly localized in intracellular vesicles but upon stimulation with anti-diuretic hormone (ADH), AQP2 is translocated to the apical plasma membrane by exocytic fusion of AQP2-bearing vesicles (2). Mutations in this gene have been linked to autosomal dominant and recessive forms of nephrogenic diabetes insipidus (3).

AQP2 Antibody - References

Denker BM, Smith BL, Kuhada FP, et al. Identification, purification, and partial characterization of a novel Mr 28,000 integral membrane protein from erythrocytes and renal tubules. *J. Biol. Chem.* 1988; 263:15634-42.

Barile M, Pisitkun T, Yu MJ, et al. Large scale protein identification in intracellular aquaporin-2 vesicles from renal inner medullary collecting duct. *Mol. Cell Proteomics* 2005; 4:1095-106.

Bockenhauer D and Bichet DG. Inherited secondary nephrogenic diabetes insipidus: concentrating on humans. *Am. J. Physiol. Renal Physiol.* 2013; 304:F1037-42.