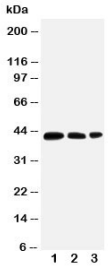
AQP2 Antibody Aquaporin 2 (R30832)

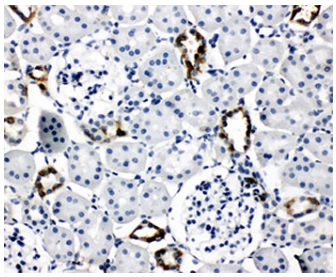
Catalog No.	Formulation	Size
R30832	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

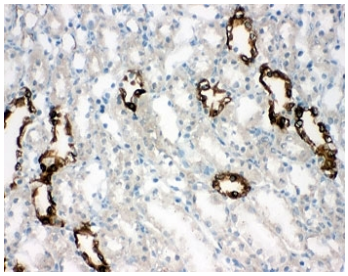
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide/thimerosal
UniProt	P41181
Applications	Western Blot : 0.5-1ug/ml IHC (FFPE) : 0.5-1ug/ml IHC (Frozen) : 0.5-1ug/ml
Limitations	This AQP2 antibody is available for research use only.



Western blot testing of AQP2 antibody and Lane 1: MCF-7; 2: SW620; 3: HT1080 cell lysate. The protein is routinely visualized from 29-46kDa depending on glycosylation level.



IHC-P: AQP2 antibody testing of rat kidney tissue



IHC-F testing of AQP2 antibody and rat kidney tissue

Description

Aquaporin 2 also called Aquaporin-CD, is found in the apical cell membranes of the kidneys 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. Investigators suggest that a defect in the 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 Aquaporin 2, 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 Aquaporin 2 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. Expression in kidney connecting tubules is sufficient for survival and that expression in collecting ducts is required to regulate body water balance. The S256L substitution in the cytoplasmic tail of the protein prevented phosphorylation at S256 and the subsequent accumulation of Aquaporin 2 on the apical membrane of the collecting duct principal cells.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the AQP2 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Amino acids 245-260 (DWEEREVRRRQSVELH) were used as the immunogen for this AQP2 antibody (100% homologous in human, mouse and rat).

Storage

After reconstitution, the AQP2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.