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phospho-AQP2 (Ser269) Rabbit pAb

Catalog # AP99111

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P56402
Other Accession	P56402
Reactivity	Rat
Predicted	Pig, Mouse, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	28965
Physical State	Liquid
Immunogen	KLH conjugated Synthesised phosphopeptide derived from mouse AQP2 around the phosphorylation site of Ser269
Epitope Specificity	RG(p-S)KA
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the MIP/aquaporin (TC 1.A.8) family.
Post-translational modifications	Ser-256 phosphorylation is necessary and sufficient for expression at the apical membrane. Endocytosis is not phosphorylation-dependent.
DISEASE	Defects in AQP2 are the cause of diabetes insipidus nephrogenic autosomal (ANDI) [MIM:125800]; also known as diabetes insipidus nephrogenic type 2. ANDI is caused by the inability of the renal collecting ducts to absorb water in response to arginine vasopressin. It is characterized by excessive water drinking (polydypsia), excessive urine excretion (polyuria), persistent hypotonic urine, and hypokalemia. Inheritance can be autosomal dominant or recessive.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a water channel protein located in the kidney collecting tubule. It belongs to the MIP/aquaporin family, some members of which are clustered together on chromosome 12q13. Mutations in this gene have been linked to autosomal dominant, and recessive forms of nephrogenic diabetes insipidus. Belongs to the MIP/aquaporin (TC 1.A.8) family.

Additional Information

Gene ID	11827
Other Names	AQP-CD; NDI2; WCH-CD; cph; jpk; AQP-2; aquaporin-2; AQP2_HUMAN; AQP2; ADH water channel; Aquaporin-CD (AQP-CD); Collecting duct water channel protein; Water channel protein for renal collecting duct; AQP2_MOUSE; AQP2_RAT; aquaporin 2; aquaporin 2 (collecting duct); AQP2 (phospho-S269); p-AQP2; phospho-AQP2; AQP2 (phospho-Ser269)

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Aqp2 {ECO:0000312|MGI:MGI:1096865}
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:10191086). Plays an essential role in renal water homeostasis (PubMed:16641094). Could also be permeable to glycerol (By similarity).
Cellular Location	Apical cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P41181}. Basolateral cell membrane {ECO:0000250|UniProtKB:P34080}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P41181}. Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P41181}. Cytoplasmic vesicle membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P41181}. Golgi apparatus, trans-Golgi network membrane {ECO:0000250|UniProtKB:P41181}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P41181}. Note=Shuttles from vesicles to the apical membrane. Vasopressin-regulated phosphorylation is required for translocation to the apical cell membrane (PubMed:16735444) PLEKHA8/FAPP2 is required to transport AQP2 from the TGN to sites where AQP2 is phosphorylated. {ECO:0000250|UniProtKB:P41181, ECO:0000269|PubMed:16735444}
Tissue Location	Detected in principal cells in the collecting duct in kidney medulla and cortex (at protein level) (PubMed:10191086, PubMed:16641094, PubMed:16735444, PubMed:31605441). Expressed in a radial pattern from the cortex through the outer medulla into the inner medulla (PubMed:12426236). Higher levels in the inner medulla (PubMed:12426236).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.