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Phospho-Ser264 Aquaporin 2 Antibody

Affinity purified rabbit polyclonal antibody
Catalog # AN1192

Specification

Phospho-Ser264 Aquaporin 2 Antibody - Product Information

Application	**WB**
Primary Accession	P34080
Reactivity	**Rat**
Predicted	**Bovine, Chicken, Human, Mouse, Monkey**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**29/37 KDa**

Phospho-Ser264 Aquaporin 2 Antibody - Additional Information

Gene ID	**25386**
Gene Name	**AQP2**

Other Names
Aquaporin-2, AQP-2, ADH water channel, Aquaporin-CD, AQP-CD, Collecting duct water channel protein, WCH-CD, Water channel protein for renal collecting duct, Aqp2

Target/Specificity
Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser264 conjugated to KLH.

Dilution
WB~~ 1:1000

Format
Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Antibody Specificity
Specific for the ~29k AQP2 protein phosphorylated at Ser264. Also recognizes the glycosylated form of AQP2 at ~ 37k. Immunolabeling of the AQP2 band is blocked by preadsorption with the phospho-peptide used as antigen but not by the corresponding dephospho-peptide.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Phospho-Ser264 Aquaporin 2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping
Blue Ice

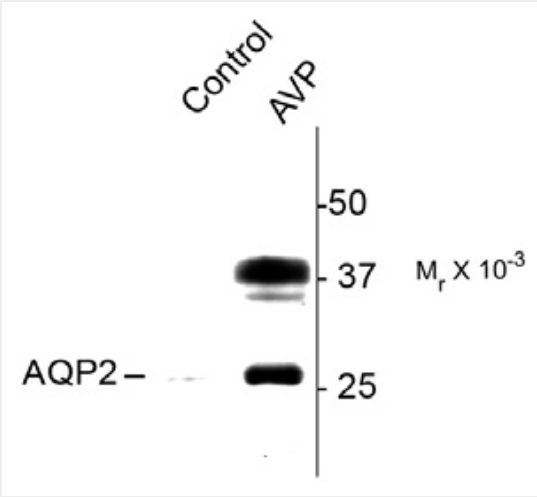
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Phospho-Ser264 Aquaporin 2 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Phospho-Ser264 Aquaporin 2 Antibody - Images



Western blot of vasopressin (AVP) treated rat kidney lysate showingspecific immunolabeling of the ~ 29k and 37k glycosylated form of theAQP2 protein phosphorylated at Ser264.

Phospho-Ser264 Aquaporin 2 Antibody - Background

Aquaporin 2 (AQP2) is a hormonally regulated water channel located in the renal collecting duct. Mutations in the AQP2 gene cause hereditary nephrogenic diabetes insipidus in humans (Iolascon et al.,2007). A vasopressin induced cAMP increase results in the phosphorylation of AQP2 at serine-256 and its translocation from the intracellular vesicles to the apical membrane of principal cells (van Balkom et al., 2002). Recently, serine-264 has been identified as a novel phosphorylation site on AQP2 and shown to be regulated by vasopressin thus implicating this site as important in AQP2 trafficking and subcellular distribution (Fenton RA et al., 2008).

Phospho-Ser264 Aquaporin 2 Antibody - References

van Balkom BW, Savelkoul PJ, Markovich D, Hofman E, Nielsen S, van der Sluijs P, Deen PM (2002) The role of putative phosphorylation sites in the targeting and shuttling of the aquaporin 2 water channel. J Biol Chem 277(44):41473-9.
Ford P, Rivarola V, Chara O, Blot-Chabaud M, Cluzeaud F, Farman M, Parisi M, Capurro C (2005) Volume regulation in cortical collecting duct cells: role of AQP2. Biol Cell 97(9):687-97.
Hoffert JD, Nielsen J,, Yu MJ,, Pisitikun T,Schleicher SM,, Nielsen Knepper MA (2007) Dynamics of aquaporin-2 serine-261 phosphorylation in response to short-term vasopressin treatment in collecting duct. . Am J Physiol Renal Physiol 292: F691-F700..
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mutations in AQP2 gene causing nephrogenic diabetes insipidus. Nephron Physiol. 105(3): p33-41.
Fenton RA, Moeller HB, Hoffert JD, Yu MJ, Nielsen S, Knepper MA (2008) Acute regulation of aquaporin-2 phosphorylation at serine-264 by vasopressin. Proc Natl Acad Sci U S A. 2008 Feb 26;105(8):3134-9.
Hoffert JD, Fenton RA, Moeller HB, Simons B, Tchapyjnikov D, McDill BW, Yu MJ, Pisitkun T, Chen F, Knepper MA. (2008) Vasopressin-stimulated increase in phosphorylation at serine 269 potentiates plasma membrane retention of aquaporin 2. J Biol Chem. 2008 Sep 5; 283(36):24617-27