

AQP2 (C-17): sc-9882

BACKGROUND

Aquaporins (AQPs) are a large family of integral membrane water transport channel proteins that facilitate the transport of water through the cell membrane. This function is conserved in animals, plants and bacteria. Many isoforms of aquaporin have been identified in mammals, designated AQP0 through AQP10. Aquaporins are widely distributed and it is not uncommon for more than one type of AQP to be present in the same cell. Although most aquaporins are only permeable to water, AQP3, AQP7, AQP9 and one of the two AQP10 transcripts are also permeable to urea and glycerol. AQP2 is the only water channel that is activated by vasopressin to enhance water reabsorption in the kidney collecting duct. Aquaporins are involved in renal water absorption, generation of pulmonary secretions, lacrimation and the secretion and reabsorption of cerebrospinal fluid and aqueous humor.

CHROMOSOMAL LOCATION

Genetic locus: AQP2 (human) mapping to 12q13.12; Aqp2 (mouse) mapping to 15 F1.

SOURCE

AQP2 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AQP2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9882 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AQP2 (C-17) is recommended for detection of AQP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AQP2 (C-17) is also recommended for detection of AQP2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for AQP2 siRNA (h): sc-42363, AQP2 siRNA (m): sc-42364, AQP2 shRNA Plasmid (h): sc-42363-SH, AQP2 shRNA Plasmid (m): sc-42364-SH, AQP2 shRNA (h) Lentiviral Particles: sc-42363-V and AQP2 shRNA (m) Lentiviral Particles: sc-42364-V.

Molecular Weight of unglycosylated AQP2: 29 kDa.

Molecular Weight of mature AQP2: 35-45 kDa.

Positive Controls: AQP2 (m): 293T Lysate: sc-118503, Caki-1 cell lysate: sc-2224 or Caki-1 cell lysate: sc-2224.

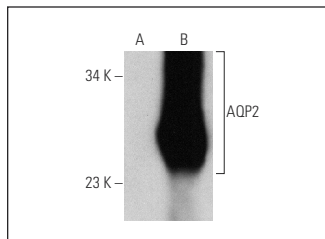
RESEARCH USE

For research use only, not for use in diagnostic procedures.

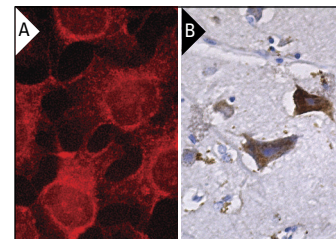
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



AQP2 (C-17): sc-9882. Western blot analysis of AQP2 expression in non-transfected: sc-117752 (A) and mouse AQP2 transfected: sc-118503 (B) 293T whole cell lysates.



AQP2 (C-17): sc-9882. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells (B).

SELECT PRODUCT CITATIONS

- Parkkila, S., et al. 2000. Expression of the membrane-associated carbonic anhydrase isozyme XII in the human kidney and renal tumors. *J. Histochem. Cytochem.* 48: 1601-1608.
- O'Toole, J.F., et al. 2010. Individuals with mutations in XPNPEP3, which encodes a mitochondrial protein, develop a nephronophthisis-like nephropathy. *J. Clin. Invest.* 120: 791-802.
- Alzamora, R., et al. 2010. AMP-activated protein kinase inhibits KCNQ1 channels through regulation of the ubiquitin ligase Nedd4-2 in renal epithelial cells. *Am. J. Physiol. Renal Physiol.* 299: F1308-F1319.
- Schödel, J., et al. 2010. Factor inhibiting HIF limits the expression of hypoxia-inducible genes in podocytes and distal tubular cells. *Kidney Int.* 78: 857-867.
- Ilatovskaya, D.V., et al. 2011. Cortical actin binding protein cortactin mediates ENaC activity via Arp2/3 complex. *FASEB J.* 25: 2688-2699.
- Leeuwis, J.W., et al. 2011. Direct visualization of Smad1/5/8-mediated transcriptional activity identifies podocytes and collecting ducts as major targets of BMP signalling in healthy and diseased kidneys. *J. Pathol.* 224: 121-132.
- Paliege, A., et al. 2012. Group VIA phospholipase A₂ is a target for vasopressin signaling in the thick ascending limb. *Am. J. Physiol. Renal Physiol.* 302: F865-F874.



Try **AQP2 (E-2): sc-515770**, our highly recommended monoclonal alternative to AQP2 (C-17). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **AQP2 (E-2): sc-515770**.