SANTA CRUZ BIOTECHNOLOGY, INC.

AQP1 (L-19): sc-9878

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. AQP1 is an integral membrane protein expressed in erythrocytes and renal tubule cells.

CHROMOSOMAL LOCATION

Genetic locus: AQP1 (human) mapping to 7p14.3; Aqp1 (mouse) mapping to 6 B3.

SOURCE

AQP1 (L-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of AQP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9878 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AQP1 (L-19) is recommended for detection of AQP1 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).

AQP1 (L-19) is also recommended for detection of AQP1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for AQP1 siRNA (h): sc-29711, AQP1 siRNA (m): sc-29712, AQP1 shRNA Plasmid (h): sc-29711-SH, AQP1 shRNA Plasmid (m): sc-29712-SH, AQP1 shRNA (h) Lentiviral Particles: sc-29711-V and AQP1 shRNA (m) Lentiviral Particles: sc-29712-V.

Molecular Weight of glycosylated AQP1: 28/35-45 kDa.

Positive Controls: human kidney extract: sc-363764, rat kidney extract: sc-2394 or mouse kidney extract: sc-2255.

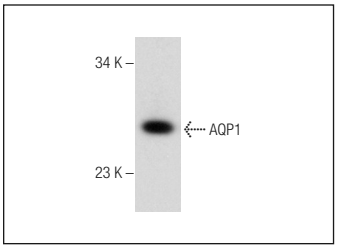
RESEARCH USE

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

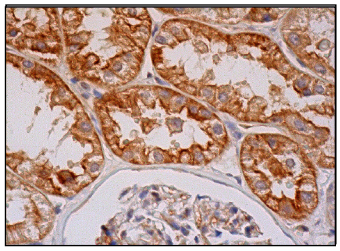
STORAGE

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

DATA



AQP1 (L-19): sc-9878. Western blot analysis of AQP1 expression in human kidney tissue extract.



AQP1 (L-19): sc-9878. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and cells in tubules.

SELECT PRODUCT CITATIONS

1. Fuson, A.L., et al. 2003. Immunolocalization of a microsomal prostaglandin E synthase in rabbit kidney. Am. J. Physiol. Renal Physiol. 285: F558-F564.
2. Palestini, P., et al. 2003. Compositional changes in lipid microdomains of air-blood barrier plasma membranes in pulmonary interstitial edema. J. Appl. Physiol. 95: 1446-1452.
3. Wellner, R.B., et al. 2005. Modifying the NH_2 and COOH termini of aquaporin-5: effects on localization in polarized epithelial cells. Tissue Eng. 11: 1449-1458.
4. Li, Y., et al. 2012. Tubular cell dedifferentiation and peritubular inflammation are coupled by the transcription regulator Id1 in renal fibrogenesis. Kidney Int. 81: 880-891.
5. Zhou, D., et al. 2012. Tubule-specific ablation of endogenous β-catenin aggravates acute kidney injury in mice. Kidney Int. 82: 537-547.
6. Banerjee, E.R., et al. 2012. Human embryonic stem cells differentiated to lung lineage-specific cells ameliorate pulmonary fibrosis in a xenograft transplant mouse model. PLoS ONE 7: e33165.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.