SANTA CRUZ BIOTECHNOLOGY, INC.

AQP1 (C-20): sc-9879

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.

REFERENCES

1. Denker, B.M., et al. 1988. Identification, purification, and partial characterization of a novel M_r 28,000 integral membrane protein from erythrocytes and renal tubules. J. Biol. Chem. 263: 15634-15642.
2. Preston, G.M., et al. 1991. Isolation of the cDNA for erythrocyte integral membrane protein of 28 kDa: member of an ancient channel family. Proc. Natl. Acad. Sci. USA 88: 11110-11114.
3. Moon, C., et al. 1993. The human Aquaporin-CHIP gene: structure, organization, and chromosomal localization. J. Biol. Chem. 268: 15772-15778.
4. Deen, P.M., et al. 1994. Requirement of human renal water channel Aquaporin-2 for vasopressin-dependent concentration of urine. Science 264: 92-95.

CHROMOSOMAL LOCATION

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

SOURCE

AQP1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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-9879 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

AQP1 (C-20) 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), immunofluorescence (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 (C-20) is also recommended for detection of AQP1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AQP1 siRNA (h): sc-29711, AQP1 siRNA (m): sc-29712, AQP1 siRNA (r): sc-156108, AQP1 shRNA Plasmid (h): sc-29711-SH, AQP1 shRNA Plasmid (m): sc-29712-SH, AQP1 shRNA Plasmid (r): sc-156108-SH, AQP1 shRNA (h) Lentiviral Particles: sc-29711-V, AQP1 shRNA (m) Lentiviral Particles: sc-29712-V and AQP1 shRNA (r) Lentiviral Particles: sc-156108-V.

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

Positive Controls: KNRK whole cell lysate: sc-2214, mouse kidney extract: sc-2255 or rat kidney extract: sc-2394.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Jimi, T., et al. 2006. Aquaporin 1: examination of its expression and localization in normal human skeletal muscle tissue. Cells Tissues Organs 184: 181-187.
2. Gonzalez-Mariscal, L., et al. 2006. The tight junction proteins claudin-7 and -8 display a different subcellular localization at Henle's loops and collecting ducts of rabbit kidney. Nephrol. Dial. Transplant. 21: 2391-2398.

RESEARCH USE

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