SANTA CRUZ BIOTECHNOLOGY, INC.

AQP2 (H-40): sc-28629

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.

CHROMOSOMAL LOCATION

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

SOURCE

AQP2 (H-40) is a rabbit polyclonal antibody raised against amino acids 232-271 mapping within a C-terminal cytoplasmic domain of AQP2 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.

STORAGE

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

APPLICATIONS

AQP2 (H-40) 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 (H-40) is also recommended for detection of AQP2 in additional species, including equine, 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.

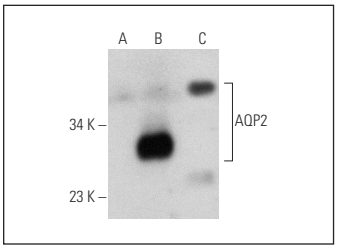
Molecular Weight of mature AQP2: 34-45 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, AQP2 (m): 293T Lysate: sc-118503 or COLO 320DM cell lysate: sc-2226.

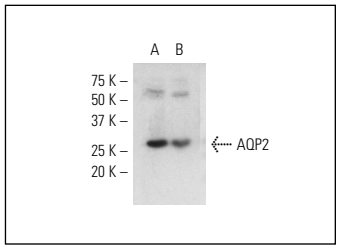
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



AQP2 (H-40): sc-28629. Western blot analysis of AQP2 expression in non-transfected 293T: sc-117752 (**A**), mouse AQP2 transfected 293T: sc-118503 (**B**) and KNRK (**C**) whole cell lysates.



AQP2 (H-40): sc-28629. Western blot analysis of AQP2 expression in Caki-1 (**A**) and COLO 320DM (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Eley, L., et al. 2008. Nephrocystin-1 interacts directly with Ack1 and is expressed in human collecting duct. Biochem. Biophys. Res. Commun. 371: 877-882.
2. Marion, V., et al. 2011. Bardet-Biedl syndrome highlights the major role of the primary cilium in efficient water reabsorption. Kidney Int. 79: 1013-1025.
3. Nguyen, M.T., et al. 2012. Effects of K^+-deficient diets with and without NaCl supplementation on Na^+, K^+, and H_2O transporters' abundance along the nephron. Am. J. Physiol. Renal Physiol. 303: F92-F104.
4. Sarati, L.I., et al. 2013. Nitric oxide and AQP2 in hypothyroid rats: a link between aging and water homeostasis. Metabolism 62: 1287-1295.

RESEARCH USE

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