SANTA CRUZ BIOTECHNOLOGY, INC.

AQP1 (H-55): sc-20810

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 (H-55) is a rabbit polyclonal antibody raised against amino acids 215-269 of AQP1 (aquaporin 1) 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.

Available as agarose conjugate for immunoprecipitation, sc-20810 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

AQP1 (H-55) 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 (H-55) 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 AQP1: 28 kDa.

Molecular Weight of glycosylated AQP1: 35-45 kDa.

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

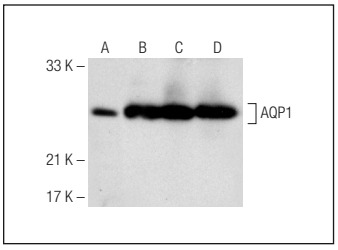
RESEARCH USE

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

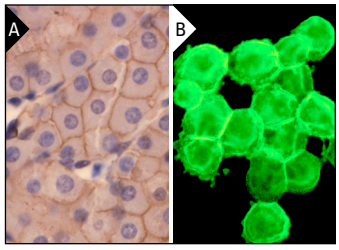
STORAGE

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

DATA



AQP1 (H-55): sc-20810. Western blot analysis of AQP1 expression in KNRK whole cell lysate (**A**) and human kidney (**B**), mouse kidney (**C**) and rat kidney (**D**) tissue extracts.



AQP1 (H-55): sc-20810. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue (**A**). Immunofluorescence staining of methanol-fixed KNRK cells showing membrane localization (**B**).

SELECT PRODUCT CITATIONS

1. Beall, M.H., et al. 2007. Placental and membrane aquaporin water channels: correlation with amniotic fluid volume and composition. Placenta 28: 421-428.
2. Lederer, C.W., et al. 2007. Pathways and genes differentially expressed in the motor cortex of patients with sporadic amyotrophic lateral sclerosis. BMC Genomics 8: 1471-2164.
3. Satoh, J., et al. 2007. Human astrocytes express aquaporin-1 and aquaporin-4 *in vitro* and *in vivo*. Neuropathology 27: 245-256.
4. Lederer, C.W., et al. 2007. Pathways and genes differentially expressed in the motor cortex of patients with sporadic amyotrophic lateral sclerosis. BMC Genomics 8: 1471-2164.
5. Angelotti, M.L., et al. 2012. Characterization of renal progenitors committed toward tubular lineage and their regenerative potential in renal tubular injury. Stem Cells 30: 1714-1725.
6. Ding, T., et al. 2013. Knockdown a water channel protein, aquaporin-4, induced glioblastoma cell apoptosis. PLoS ONE 8: e66751.
7. Zhang, X., et al. 2014. Farnesoid X receptor (FXR) gene deficiency impairs urine concentration in mice. Proc. Natl. Acad. Sci. USA 111: 2277-2282.
8. Shao, C., et al. 2015. Targeted transplantation of human umbilical cord blood endothelial progenitor cells with immunomagnetic nanoparticles to repair corneal endothelium defect. Stem Cells Dev. 24: 756-767.