

AQP1 (1): sc-32738

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 (1) is a mouse monoclonal antibody raised against amino acids 198-208 of extracellular AQP1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AQP1 (1) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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 AQP1: 28 kDa.

Molecular Weight of glycosylated AQP1: 35-45 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, mouse kidney extract: sc-2255 or HeLa whole cell lysate: sc-2200.

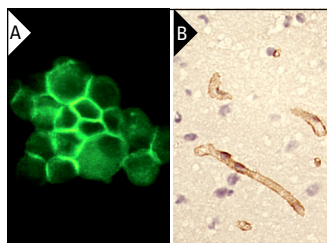
STORAGE

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

RESEARCH USE

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

DATA



AQP1 (1): sc-32738. Immunofluorescence staining of methanol-fixed KNRK cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat brain tissue showing membrane localization (B).

SELECT PRODUCT CITATIONS

1. Senayli, A., et al. 2004. A case of bladder exstrophy and thoracic intramedullary teratoma. *J. Pediatr. Surg.* 39: e9-e11.
2. Tas, U., et al. 2012. Aquaporin-1 and aquaporin-3 expressions in the intervertebral disc of rats with aging. *Balkan Med. J.* 29: 349-353.
3. Wang, Y., et al. 2017. Knockdown of AQP1 inhibits growth and invasion of human ovarian cancer cells. *Mol. Med. Rep.* 16: 5499-5504.
4. Wang, B., et al. 2020. The chronic adverse effect of chloroquine on kidney in rats through an autophagy dependent and independent pathways. *Nephron* 144: 96-108.
5. Pfeffer, T., et al. 2024. Knock-out of dipeptidase CN2 in human proximal tubular cells disrupts dipeptide and amino acid homeostasis and para- and transcellular solute transport. *Acta Physiol.* 240: e14126.
6. Barclay, K.M., et al. 2024. An inducible genetic tool to track and manipulate specific microglial states reveals their plasticity and roles in remyelination. *Immunity* 57: 1394-1412.e8.

PROTOCOLS

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



See **AQP1 (B-11): sc-25287** for AQP1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.