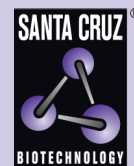


AQP4 (4/18): sc-32739



The Power to Question

BACKGROUND

In skeletal muscle, AQP4 (aquaporin 4 also known as mercurial insensitive water channel), localizes to the sarcolemma of fast-twitch muscle fibers. 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: AQP4 (human) mapping to 18q11.2; Aqp4 (mouse) mapping to 18 A1.

SOURCE

AQP4 (4/18) is a mouse monoclonal antibody raised against amino acids 301-318 of intracellular AQP4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AQP4 (4/18) is available conjugated to agarose (sc-32739 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to either phycoerythrin (sc-32739 PE), fluorescein (sc-32739 FITC) or Alexa Fluor® 488 (sc-32739 AF488) or Alexa Fluor® 647 (sc-32739 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

AQP4 (4/18) is recommended for detection of AQP4 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 flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for AQP4 siRNA (h): sc-29715, AQP4 siRNA (m): sc-29716, AQP4 siRNA (r): sc-156007, AQP4 shRNA Plasmid (h): sc-29715-SH, AQP4 shRNA Plasmid (m): sc-29716-SH, AQP4 shRNA Plasmid (r): sc-156007-SH, AQP4 shRNA (h) Lentiviral Particles: sc-29715-V, AQP4 shRNA (m) Lentiviral Particles: sc-29716-V and AQP4 shRNA (r) Lentiviral Particles: sc-156007-V.

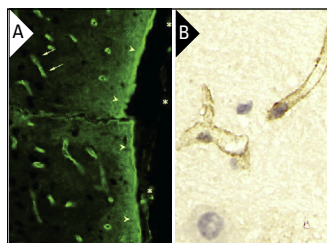
Molecular Weight of AQP4: 34 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, IMR-32 cell lysate: sc-2409 or T98G cell lysate: sc-2294.

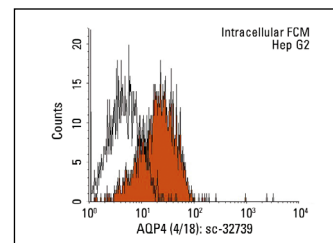
STORAGE

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

DATA



AQP4 (4/18): sc-32739. Immunofluorescence staining of rat cerebral cortex. Kindly provided by Nagy G. at University of Pecs, Hungary (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat brain tissue showing membrane localization (B).



AQP4 (4/18): sc-32739. Indirect, intracellular FCM analysis of fixed and permeabilized Hep G2 cells stained with AQP4 (4/18), followed by PE-conjugated goat anti-mouse IgG₃. Black line histogram represents the isotype control, normal mouse IgG₃: sc-3880.

SELECT PRODUCT CITATIONS

- Roberts, L.M., et al. 2008. Expression of the thyroid hormone transporters monocarboxylate transporter-8 (SLC16A2) and organic ion transporter-14 (SLC01C1) at the blood-brain barrier. *Endocrinology* 149: 6251-6261.
- Wang, P., et al. 2011. Expression of aquaporin-4 in human supratentorial meningiomas with peritumoral brain edema and correlation of VEGF with edema formation. *Genet. Mol. Res.* 10: 2165-2171.
- Cui, B., et al. 2012. Aquaporin 4 knockdown exacerbates streptozotocin-induced diabetic retinopathy through aggravating inflammatory response. *Exp. Eye Res.* 98: 37-43.
- Xiong, L.L., et al. 2016. Administration of SB239063, a potent p38 MAPK inhibitor, alleviates acute lung injury induced by intestinal ischemia reperfusion in rats associated with AQP4 downregulation. *Int. Immunopharmacol.* 38: 54-60.
- Hwang, A.R., et al. 2017. Fluvastatin inhibits AGE-induced cell proliferation and migration via an ERK5-dependent Nrf2 pathway in vascular smooth muscle cells. *PLoS ONE* 12: e0178278.
- Norwood, J.N., et al. 2019. Anatomical basis and physiological role of cerebrospinal fluid transport through the murine cribriform plate. *Elife* 8: e44278.
- Han, M., et al. 2020. Collateral augmentation treatment with a combination of acetazolamide and head-down tilt in a rat ischemic stroke model. *J. Clin. Neurosci.* 73: 252-258.
- Mesentier-Louro, L.A., et al. 2021. Hypoxia-induced inflammation: profiling the first 24-hour posthypoxic plasma and central nervous system changes. *PLoS ONE* 16: e0246681.

RESEARCH USE

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