SANTA CRUZ BIOTECHNOLOGY, INC.

AQP4 (B-5): sc-390488

SANTA CRUZ BIOTECHNOLOGY

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 (B-5) is a mouse monoclonal antibody raised against amino acids 244-323 mapping at the C-terminus of AQP4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AQP4 (B-5) is available conjugated to agarose (sc-390488 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390488 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390488 PE), fluorescein (sc-390488 FITC), Alexa Fluor® 488 (sc-390488 AF488), Alexa Fluor® 546 (sc-390488 AF546), Alexa Fluor® 594 (sc-390488 AF594) or Alexa Fluor® 647 (sc-390488 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390488 AF680) or Alexa Fluor® 790 (sc-390488 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

AQP4 (B-5) is recommended for detection of AQP4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

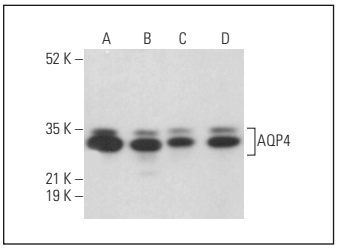
Suitable for use as control antibody for AQP4 siRNA (h): sc-29715, AQP4 siRNA (m): sc-29716, AQP4 siRNA (r): sc-156007, AQP4 shRNA Plasmid (h): sc-29715-SH, AQP4 shRNA Plasmid (m): sc-29716-SH, AQP4 shRNA Plasmid (r): sc-156007-SH, AQP4 shRNA (h) Lentiviral Particles: sc-29715-V, AQP4 shRNA (m) Lentiviral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

Molecular Weight of AQP4: 34 kDa.

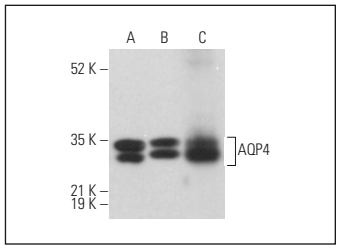
STORAGE

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

DATA



AQP4 (B-5): sc-390488. Western blot analysis of AQP4 expression in U-87 MG (**A**), A-673 (**B**), Sol8 (**C**) and A-10 (**D**) whole cell lysates.



AQP4 (B-5): sc-390488. Western blot analysis of AQP4 expression in BC_3H1 (**A**) and C6 (**B**) whole cell lysates and human stomach tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Nógrádi, B., et al. 2020. Upregulation of nucleotide-binding oligomerization domain-, LRR- and pyrin domain-containing protein 3 in motoneurons following peripheral nerve injury in mice. Front. Pharmacol. 11: 584184.
2. Belmaati Cherkaoui, M., et al. 2021. Dp71 contribution to the molecular scaffold anchoring aquaporine-4 channels in brain macroglial cells. Glia 69: 954-970.
3. Kyung, B.S., et al. 2021. Differential regulation of the water channel protein aquaporins in chondrocytes of human knee articular cartilage by aging. Sci. Rep. 11: 20425.
4. Lacaille, H., et al. 2021. Preterm birth alters the maturation of the GABAergic system in the human prefrontal cortex. Front. Mol. Neurosci. 14: 827370.
5. Zhang, T., et al. 2022. GPR18 agonist resolvin D2 reduces early brain injury in a rat model of subarachnoid hemorrhage by multiple protective mechanisms. Cell. Mol. Neurobiol. 42: 2379-2392.
6. Thinard, R., et al. 2022. "Endothelial antibody factory" at the blood brain barrier: novel approach to therapy of neurodegenerative diseases. Pharmaceutics 14: 1418.
7. Kakizoe, Y., et al. 2022. Camostat mesilate, a serine protease inhibitor, exerts aquaretic effects and decreases urinary exosomal AQP2 levels. J. Pharmacol. Sci. 150: 204-210.
8. Iacono, D., et al. 2023. Double blast wave primary effect on synaptic, glymphatic, myelin, neuronal and neurovascular markers. Brain Sci. 13: 286.

RESEARCH USE

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