

AQP4 (H-19): sc-9887

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 (H-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of AQP4 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.

Blocking peptide available for competition studies, sc-9887 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

AQP4 (H-19) 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). AQP4 (H-19) is also recommended for detection of AQP4 in additional species, including equine, canine, bovine and porcine.

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

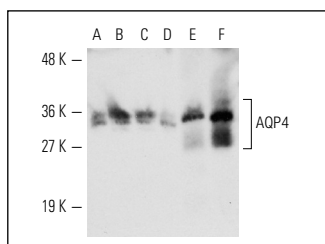
Molecular Weight of AQP4: 34 kDa.

Positive Controls: mouse brain extract: sc-2253, H4 cell lysate: sc-2408 or rat brain extract: sc-2392.

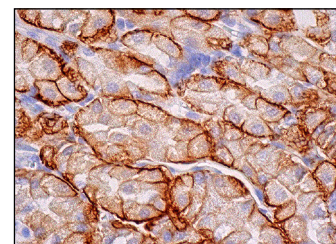
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



AQP4 (H-19): sc-9887. Western blot analysis of AQP4 expression in H4 (A), U-87 MG (B), T98G (C) and IMR-32 (D) whole cell lysates and mouse brain (E) and rat brain (F) tissue extracts.



AQP4 (H-19): sc-9887. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

- Meffre, D., et al. 2005. The membrane-associated progesterone-binding protein 25-Dx is expressed in brain regions involved in water homeostasis and is up-regulated after traumatic brain injury. *J. Neurochem.* 93: 1314-1326.
- Granieri, L., et al. 2012. Evaluation of a multiparametric immunofluorescence assay for standardization of neuromyelitis optica serology. *PLoS ONE* 7: e38896.
- Kong, H., et al. 2014. Aquaporin-4 knockout exacerbates corticosterone-induced depression by inhibiting astrocyte function and hippocampal neurogenesis. *CNS Neurosci. Ther.* 20: 391-402.

STORAGE

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



Try **AQP4 (4/18): sc-32739** or **AQP4 (B-5): sc-390488**, our highly recommended monoclonal alternatives to AQP4 (H-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **AQP4 (4/18): sc-32739**.