

AQP11 (G-12): sc-138131

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. AQP11 (aquaporin-11), also known as AQPX1, is a 271 amino acid multi-pass membrane protein that belongs to the MIP/aquaporin family and the AQP11/AQP12 subfamily. Encoded by a gene that maps to human chromosome 11q14.1, AQP11 contains three exons and is highly expressed in testis, moderately in thymus, kidney, liver and intestine, and marginally in brain and lung. Similar to other aquaporin family members, AQP11 consists of two tandem repeats, each containing three membrane-spanning domains. However, AQP11 contains one pore-forming loop with an asparagine-proline-alanine (NPA) signature motif distinct from other aquaporins, which typically have two, suggesting that AQP11 is comprised of a different pore structure and performs a unique function. Disruption of AQP11 may be linked to polycystic kidneys, primary proximal tubule defects, hepatic cysts and renal failure.

REFERENCES

- Morishita, Y., et al. 2004. Molecular mechanisms and drug development in aquaporin water channel diseases: aquaporin superfamily (superaquaporins): expansion of aquaporins restricted to multicellular organisms. *J. Pharmacol. Sci.* 96: 276-279.
- Morishita, Y., et al. 2005. Disruption of aquaporin-11 produces polycystic kidneys following vacuolization of the proximal tubule. *Mol. Cell. Biol.* 25: 7770-7779.
- Gorelick, D.A., et al. 2006. Aquaporin-11: a channel protein lacking apparent transport function expressed in brain. *BMC Biochem.* 7: 14.
- Ishibashi, K. 2006. Aquaporin subfamily with unusual NPA boxes. *Biochim. Biophys. Acta* 1758: 989-993.
- Yakata, K., et al. 2007. Aquaporin-11 containing a divergent NPA motif has normal water channel activity. *Biochim. Biophys. Acta* 1768: 688-693.

CHROMOSOMAL LOCATION

Genetic locus: AQP11 (human) mapping to 11q14.1; Aqp11 (mouse) mapping to 7 E2.

SOURCE

AQP11 (G-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AQP11 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-138131 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

AQP11 (G-12) is recommended for detection of AQP11 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other AQP family members.

AQP11 (G-12) is also recommended for detection of AQP11 in additional species, including equine and canine.

Suitable for use as control antibody for AQP11 siRNA (h): sc-96600, AQP11 siRNA (m): sc-141180, AQP11 shRNA Plasmid (h): sc-96600-SH, AQP11 shRNA Plasmid (m): sc-141180-SH, AQP11 shRNA (h) Lentiviral Particles: sc-96600-V and AQP11 shRNA (m) Lentiviral Particles: sc-141180-V.

Molecular Weight (predicted) of AQP11: 30 kDa.

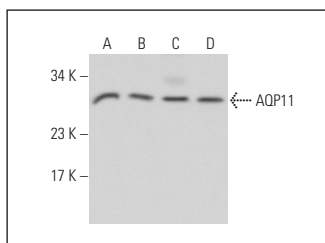
Molecular Weight (observed) of AQP11: 36 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, AN3 CA cell lysate: sc-24662 or NIH/3T3 whole cell lysate: sc-2210.

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.

DATA



AQP11 (G-12): sc-138131. Western blot analysis of AQP11 expression in NTERA-2 cl.D1 (A), AN3CA (B), NIH/3T3 (C) and Jurkat (D) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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