

AQP0 (H-44): sc-99059

BACKGROUND

Aquaporins (AQPs) are a large family of integral membrane channel proteins that facilitate the transport of water through the cell membrane. Aquaporins are widely distributed and are involved in renal water absorption, generation of pulmonary secretions, lacrimation and the secretion and reabsorption of cerebrospinal fluid and aqueous humor. AQP0 is the most abundant endogenous protein in the plasma membrane of lens fiber cells where it functions not only as a water pore, but it is also involved in fiber-fiber adhesion and is crucial for fiber cell structure and organization. AQP0 contains an additional pore constriction, not seen in any other aquaporin structures, which may be responsible for pore gating. The closed AQP0 pore holds just three water molecules, which are spaced too far apart to form hydrogen bonds with each other. The C-terminal domain of AQP0 undergoes extensive post-translational modification, including many truncations, during lens aging due to the actions of μ -Calpain, proteases or non-enzymatic mechanisms. These truncation sites may be involved in the development of cataracts.

REFERENCES

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- Ball, L.E., et al. 2003. Water permeability of C-terminally truncated aquaporin 0 (AQP0 1-243) observed in the aging human lens. *Invest. Ophthalmol. Vis. Sci.* 44: 4820-4828.
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- Gonen, T., et al. 2005. Lipid-protein interactions in double-layered two-dimensional AQP0 crystals. *Nature* 438: 633-638.
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CHROMOSOMAL LOCATION

Genetic locus: MIP (human) mapping to 12q13.3; Mip (mouse) mapping to 10 D3.

SOURCE

AQP0 (H-44) is a rabbit polyclonal antibody raised against amino acids 220-263 mapping within a C-terminal cytoplasmic domain of AQP0 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

AQP0 (H-44) is recommended for detection of AQP0 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

AQP0 (H-44) is also recommended for detection of AQP0 in additional species, including equine.

Suitable for use as control antibody for AQP0 siRNA (h): sc-42361, AQP0 siRNA (m): sc-42362, AQP0 shRNA Plasmid (h): sc-42361-SH, AQP0 shRNA Plasmid (m): sc-42362-SH, AQP0 shRNA (h) Lentiviral Particles: sc-42361-V and AQP0 shRNA (m) Lentiviral Particles: sc-42362-V.

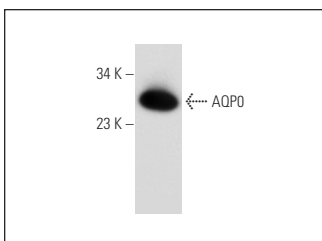
Molecular Weight of AQP0: 28 kDa.

Positive Controls: mouse eye extract: sc-364241.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



AQP0 (H-44): sc-99059. Western blot analysis of AQP0 expression in mouse eye tissue extract.

STORAGE

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

MONOS
Satisfaction
Guaranteed

Try **AQP0 (B-11): sc-376445**, our highly recommended monoclonal alternative to AQP0 (H-44).