

AQP2 (G-3): sc-515798

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. 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: AQP2 (human) mapping to 12q13.12; Aqp2 (mouse) mapping to 15 F1.

SOURCE

AQP2 (G-3) is a mouse monoclonal antibody raised against amino acids 232-271 mapping within a C-terminal cytoplasmic domain of AQP2 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.

STORAGE

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

APPLICATIONS

AQP2 (G-3) is recommended for detection of AQP2 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), 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).

Suitable for use as control antibody for AQP2 siRNA (h): sc-42363, AQP2 siRNA (m): sc-42364, AQP2 shRNA Plasmid (h): sc-42363-SH, AQP2 shRNA Plasmid (m): sc-42364-SH, AQP2 shRNA (h) Lentiviral Particles: sc-42363-V and AQP2 shRNA (m) Lentiviral Particles: sc-42364-V.

Molecular Weight of unglycosylated AQP2: 29 kDa.

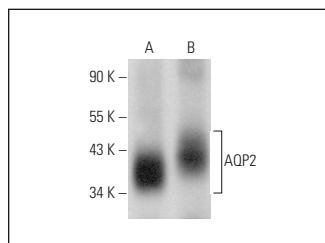
Molecular Weight of mature AQP2: 35-45 kDa.

Positive Controls: human kidney extract: sc-363764 or rat kidney extract: sc-2394.

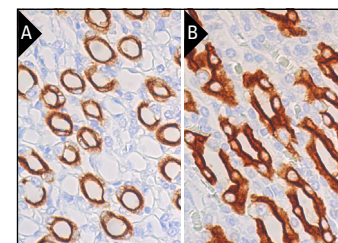
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



AQP2 (G-3): sc-515798. Western blot analysis of AQP2 expression in rat kidney (A) and human kidney (B) tissue extracts. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



AQP2 (G-3): sc-515798. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney (A) and rat kidney (B) tissue showing apical membrane and cytoplasmic staining of cells in tubules. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Wang, B., et al. 2019. The chronic adverse effect of chloroquine on kidney in rats through an autophagy dependent and independent pathways. *Nephron* 29: 1-12.
2. Zhao, Z., et al. 2022. A pore-forming protein drives macropinocytosis to facilitate toad water maintaining. *Commun. Biol.* 5: 730.

RESEARCH USE

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

PROTOCOLS

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