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AQP5 (h): 293T Lysate: sc-173646

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. In the lung, AQP5 is responsible for the majority of water transport across the apical membrane of type I alveolar epithelial cells.

REFERENCES

1. Preston, G.M., et al. 1991. Isolation of the cDNA for erythrocyte integral membrane protein of 28 kilodaltons: member of an ancient channel family. *Proc. Natl. Acad. Sci. USA* 88: 11110-11114.
2. Deen, P.M., et al. 1994. Requirement of human renal water channel aquaporin-2 for vasopressin-dependent concentration of urine. *Science* 264: 92-95.
3. Ishibashi, K., et al. 1995. Structure and chromosomal localization of a human water channel (AQP3) gene. *Genomics* 27: 352-354.
4. Yang, B., et al. 1995. cDNA cloning, gene organization, and chromosomal localization of a human mercurial insensitive water channel. Evidence for distinct transcriptional units. *J. Biol. Chem.* 270: 22907-22913.
5. Lee, M.D., et al. 1996. The human Aquaporin-5 gene. Molecular characterization and chromosomal localization. *J. Biol. Chem.* 271: 8599-8604.
6. Echevarria, M., et al. 1998. Aquaporins. *J. Physiol. Biochem.* 54: 107-118.
7. Beitz, E., et al. 1999. The mammalian aquaporin water channel family: a promising new drug target. *Curr. Med. Chem.* 6: 457-467.
8. Ma, T., et al. 2000. Lung fluid transport in aquaporin-5 knockout mice. *J. Clin. Invest.* 105: 93-100.

CHROMOSOMAL LOCATION

Genetic locus: AQP5 (human) mapping to 12q13.12.

PRODUCT

AQP5 (h): 293T Lysate represents a lysate of human AQP5 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

AQP5 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive AQP5 antibodies. Recommended use: 10-20 µl per lane.

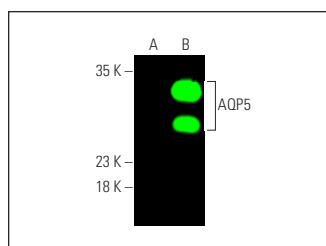
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

AQP5 (D-7): sc-514022 is recommended as a positive control antibody for Western Blot analysis of enhanced human AQP5 expression in AQP5 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

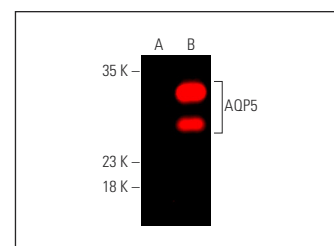
RECOMMENDED SUPPORT REAGENTS

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.

DATA



AQP5 (D-7): sc-514022. Near-infrared western blot analysis of AQP5 expression in non-transfected: sc-117752 (A) and human AQP5 transfected: sc-173646 (B) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



AQP5 (D-7): sc-514022. Near-infrared western blot analysis of AQP5 expression in non-transfected: sc-117752 (A) and human AQP5 transfected: sc-173646 (B) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

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.