



## AQP6 (C-15): sc-14967

### BACKGROUND

AQP6 (also designated AQP2L) is a 282 amino acid protein that localizes to intracellular membranes in renal epithelia. 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; it is not uncommon for more than one type of AQP to be present in the same cell. Although most aquaporins are permeable only to water, AQP3, AQP7, AQP9 and one of the two AQP10 transcripts are also permeable to urea and glycerol. Aquaporins are involved in renal water absorption, generation of pulmonary secretions, lacrimation and the secretion and reabsorption of cerebrospinal fluid and aqueous humor. AQP6 may contribute to glomerular filtration, tubular endocytosis and acid-base metabolism.

### REFERENCES

1. Ma, T., Yang, B., Kuo, W. L. and Verkman, A. S. 1996. cDNA cloning and gene structure of a novel water channel expressed exclusively in human kidney: evidence for a gene cluster of aquaporins at chromosome locus 12q13. *Genomics* 35: 543-550.
2. Echevarria, M. and Ilundain, A.A. 1998. Aquaporins. *J. Physiol. Biochem.* 54: 107-118.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 601383. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Yasui, M., Hazama, A., Kwon, T. H., Nielsen, S., Guggino, W. B. and Agre, P. 1999. Rapid gating and anion permeability of an intracellular aquaporin. *Nature* 402: 184-187.
5. Yasui, M., Kwon, T. H., Knepper, M. A., Nielsen, S. and Agre, P. 1999. Aquaporin-6: An intracellular vesicle water channel protein in renal epithelia. *Proc. Natl. Acad. Sci. USA* 96: 5808-5813.
6. Beitz, E. and Schultz, J.E. 1999. The mammalian aquaporin water channel family: A promising new drug target. *Curr. Med. Chem.* 6: 457-467.
7. Promeneur, D., Kwon, T.H., Yasui, M., Kim, G.H., Frøkiaer, J., Knepper, M.A., Agre, P. and Nielsen, S. 2000. Regulation of AQP6 mRNA and protein expression in rats in response to altered acid-base or water balance. *Am. J. Physiol. Renal Physiol.* 279: F1014-1026.
8. Ikeda, M., Beitz, E., Kozono, D., Guggino, W.B., Agre, P. and Yasui, M. 2002. Characterization of aquaporin 6 as a nitrate channel in mammalian cells. Requirement of pore-lining residue Threonine 63. *J. Biol. Chem.* 277: 39873-39879.

### CHROMOSOMAL LOCATION

Genetic locus: AQP6 (human) mapping to 12q13; Aqp6 (mouse) mapping to 15 F1.

### SOURCE

AQP6 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AQP6 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-14967 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

AQP6 (C-15) is recommended for detection of AQP6 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for AQP6 siRNA (h): sc-42365.

Molecular Weight of AQP6 monomer: 30 kDa.

Molecular Weight of AQP6 dimer: 55 kDa.

Molecular Weight of AQP6 tetramer: 75 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263.

### 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) 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.

### STORAGE

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

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.