

# AQP7 (I-20): sc-14980

## 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. Aquaporins are involved in renal water absorption, generation of pulmonary secretions, lacrimation, and the secretion and reabsorption of cerebrospinal fluid and aqueous humor. Human AQP7 is a 342 amino acid protein that facilitates water, glycerol and urea transport, and is predominately expressed in adipose tissue.

## REFERENCES

1. Ma, T., et al. 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. Kuriyama, H., et al. 1997. Molecular cloning and expression of a novel human aquaporin from adipose tissue with glycerol permeability. *Biochem. Biophys. Res. Commun.* 241: 53-58.
3. Echevarria, M., et al. 1998. Aquaporins. *J. Physiol. Biochem.* 54: 107-118.
4. Ishibashi, K., et al. 1998. Molecular characterization of human Aquaporin-7 gene and its chromosomal mapping. *Biochim. Biophys. Acta.* 1399: 62-66.
5. Beitz, E., et al. 1999. The mammalian aquaporin water channel family: A promising new drug target. *Curr. Med. Chem.* 6: 457-467.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 602974. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: Aqp7 (mouse) mapping to 4 A5.

## SOURCE

AQP7 (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AQP7 of mouse 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-14980 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

AQP7 (I-20) is recommended for detection of AQP7 of mouse 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 AQP7 siRNA (m): sc-42368, AQP7 shRNA Plasmid (m): sc-42368-SH and AQP7 shRNA (m) Lentiviral Particles: sc-42368-V.

Molecular Weight (predicted) of AQP7: 37 kDa.

Molecular Weight (observed) of AQP7: 23-33 kDa.

## 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Matsumura, K., et al. 2007. Aquaporin 7 is a  $\beta$ -cell protein and regulator of intracellular glycerol content and glycerol kinase activity,  $\beta$ -cell mass, and Insulin production and secretion. *Mol. Cell. Biol.* 27: 6026-6037.

## 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.