

AQP3 (H-80): sc-20811

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. AQP3 is expressed in the basolateral membrane by collecting duct cells in the kidney.

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. 1994. Molecular cloning and expression of a member of the aquaporin family with permeability to glycerol and urea in addition to water expressed at the basolateral membrane of kidney collecting duct cells. *Proc. Nat. Acad. Sci. USA* 91: 6269-6273.
4. Ishibashi, K., et al. 1995. Structure and chromosomal localization of a human water channel (AQP3) gene. *Genomics* 27: 352-354.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: AQP3 (human) mapping to 9p13.3; Aqp3 (mouse) mapping to 4.

SOURCE

AQP3 (H-80) is a rabbit polyclonal antibody raised against amino acids 1-80 mapping at the N-terminus of AQP3 (aquaporin 3) 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.

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.

APPLICATIONS

AQP3 (H-80) is recommended for detection of AQP3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

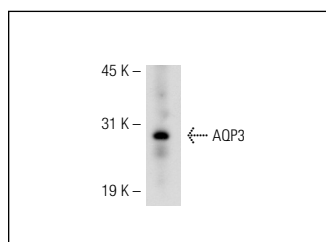
AQP3 (H-80) is also recommended for detection of AQP3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AQP3 siRNA (h): sc-29713, AQP3 siRNA (m): sc-29714, AQP3 shRNA Plasmid (h): sc-29713-SH, AQP3 shRNA Plasmid (m): sc-29714-SH, AQP3 shRNA (h) Lentiviral Particles: sc-29713-V and AQP3 shRNA (m) Lentiviral Particles: sc-29714-V.

Molecular Weight of AQP3: 36 kDa.

Positive Controls: rat kidney extract: sc-2394.

DATA



AQP3 (H-80): sc-20811. Western blot analysis of AQP3 expression in rat kidney tissue extract.

SELECT PRODUCT CITATIONS

1. Beall, M.H., et al. 2007. Placental and membrane aquaporin water channels: correlation with amniotic fluid volume and composition. *Placenta* 28: 421-428.
2. Krane, C.M., et al. 2009. Altered regulation of aquaporin gene expression in allergen and IL-13-induced mouse models of asthma. *Cytokine* 46: 111-118.
3. Procino, G., et al. 2011. Altered expression of renal aquaporins and α -adducin polymorphisms may contribute to the establishment of salt-sensitive hypertension. *Am. J. Hypertens.* E-Published.

PROTOCOLS

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