

# AQP3 (F-1): sc-518001

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: AQP3 (human) mapping to 9p13.3; Aqp3 (mouse) mapping to 4 A5.

## SOURCE

AQP3 (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 268-292 at the C-terminus of AQP3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AQP3 (F-1) is available conjugated to agarose (sc-518001 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518001 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518001 PE), fluorescein (sc-518001 FITC), Alexa Fluor® 488 (sc-518001 AF488), Alexa Fluor® 546 (sc-518001 AF546), Alexa Fluor® 594 (sc-518001 AF594) or Alexa Fluor® 647 (sc-518001 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518001 AF680) or Alexa Fluor® 790 (sc-518001 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

AQP3 (F-1) is recommended for detection of AQP3 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 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.

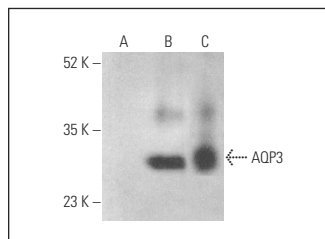
Molecular Weight of AQP3: 36 kDa.

Positive Controls: AQP3 (h): 293 Lysate: sc-111201.

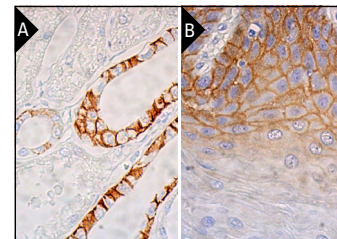
## STORAGE

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

## DATA



AQP3 (F-1) HRP: sc-518001 HRP. Direct western blot analysis of AQP3 expression in non-transfected: sc-117752 (A), human AQP3 transfected: sc-111201 (B) and sc-124983 (C) 293T whole cell lysates.



AQP3 (F-1): sc-518001. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in tubules. Detected with m-IgG1 BP-HRP: sc-525408 (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing membrane and cytoplasmic staining of squamous epithelial cells. Detected with m-IgG1 BP-B: sc-533660 and ImmunoCruz® ABC Kit: sc-516216 (B).

## SELECT PRODUCT CITATIONS

- Avola, R., et al. 2018. Blue light induces down-regulation of aquaporin 1, 3, and 9 in human keratinocytes. *Cells* 7: 197.
- Tsujimoto, H., et al. 2020. A modular differentiation system maps multiple human kidney lineages from pluripotent stem cells. *Cell Rep.* 31: 107476.
- Ferrara, F., et al. 2021. Evaluating the effect of Ozone in UV induced skin damage. *Toxicol. Lett.* 338: 40-50.
- Kakizoe, Y., et al. 2022. Camostat mesilate, a serine protease inhibitor, exerts aquaretic effects and decreases urinary exosomal AQP2 levels. *J. Pharmacol. Sci.* 150: 204-210.
- Li, Y., et al. 2022. Novel mechanisms underlying inhibition of inflammation-induced angiogenesis by dexamethasone and gentamicin via PI3K/Akt/NFκB/VEGF pathways in acute radiation proctitis. *Sci. Rep.* 12: 14116.
- Stoeckelhuber, M., et al. 2023. Infantile human labial glands: distribution of aquaporins and claudins in the context of paracellular and transcellular pathways. *Tissue Cell* 82: 102052.
- Mlinarić, M., et al. 2023. AQP3-dependent PI3K/Akt modulation in breast cancer cells. *Int. J. Mol. Sci.* 24: 8133.
- Wang, J., et al. 2023. Clinical significance of Interleukin 17 receptor E in diabetic nephropathy. *Int. Immunopharmacol.* 120: 110324.
- Ferrara, F., et al. 2024. Vitamin C compounds mixture prevents skin barrier alterations and inflammatory responses upon real life multi pollutant exposure. *Exp. Dermatol.* 33: e15000.

## RESEARCH USE

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