

Product Information

Anti-Aquaporin 6

Developed in Rabbit, Affinity Isolated Antibody

Product Number **A 5104**

Product Description

Anti-Aquaporin 6 was developed in rabbit using a synthetic peptide (C)EPQKKESQTNSEDETEVSV corresponding to residues 259-276 of rat AQP6 as the immunogen. This sequence has 15/18 residues identical in mouse. The antibody was affinity isolated on immobilized immunogen.

Anti-Aquaporin 6 recognizes Aquaporin 6 from rat kidney membranes by immunoblotting and from rat and mouse kidney sections by immunohistochemistry.

The aquaporins are small, very hydrophobic, intrinsic membrane proteins, the selectivity of which can be so high that even protons (H_3O^+) cannot pass, although some channels also transport glycerol and sometimes larger molecules in addition to water.^{1,2} The importance of the aquaporin water channels was underscored by awarding the 2003 Nobel Prize in Chemistry to Peter Agre "for the discovery of water channels". The wide range of species expressing this family of proteins attest to its involvement in a diverse range of biological processes throughout the plant and animal kingdoms. All aquaporins bear common structural features, containing intracellular N- and C- termini and six transmembrane segments separated by five connecting loops.² Aquaporin-mediated water flow *in vivo* is directed by osmotic or hydraulic gradients and most mammalian aquaporins are inhibited by mercurials.^{1,2}

AQP6 is located in intracellular membrane vesicles in multiple types of renal epithelia, where it is presumably involved in intracellular water transfer.³

Reagent

Anti- Aquaporin 6 is supplied as lyophilized powder from phosphate buffered saline, pH 7.4, containing 0.025% sodium azide as preservative.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult

the MSDS for information regarding hazards and safe handling.

Preparation Instructions

Reconstitute the lyophilized vial with 0.05 ml or 0.2 ml deionized water, depending on the package size purchased. Further dilutions should be made using a carrier protein such as BSA (1%).

Storage/Stability

Lyophilized powder can be stored intact at room temperature for several weeks. For extended storage, it should be stored at $-20\text{ }^{\circ}\text{C}$ or below. The reconstituted solution can be stored at $2-8\text{ }^{\circ}\text{C}$ for up to 2 weeks. For longer storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Centrifuge all antibody preparations before use ($10,000 \times g$ 5 min). Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended working dilution is 1:200 for immunoblotting.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Verkman, A.S., and Mitra, A.K., Structure and function of aquaporin water channels, *Am. J. Physiol. Renal Physiol.* **278**, F13–F28 (2000).
2. Agre, P., et al., Aquaporin water channels – from atomic structure to clinical medicine, *J. Physiol.*, **542.1**, 3–16 (2002).
3. Yasui, M., et al., Aquaporin-6: An intracellular vesicle water channel protein in renal epithelia, *Proc. Natl. Acad. Sci. U S A.*, **96**, 5808-5813 (1999).

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