

## Product Information

### Anti-Water Channel Aquaporin 5

produced in rabbit, affinity isolated antibody

Catalog Number **A4979**

#### Product Description

Anti-Water Channel Aquaporin 5 was produced in rabbit using a synthetic peptide (C)DHREERKKTIeltaH corresponding to residues 251–265 of rat AQP5 as the immunogen. This sequence is identical to mouse and has 10/16 residues identical in human. The antibody was affinity isolated on immobilized immunogen.

Anti-Water Channel Aquaporin 5 recognizes aquaporin 5 from mouse salivary gland and rat lung membranes by immunoblotting.

The aquaporins are small, very hydrophobic, intrinsic membrane proteins, the selectivity of which can be so high that even protons ( $\text{H}_3\text{O}^+$ ) cannot pass, although some channels also transport glycerol and sometimes larger molecules in addition to water.<sup>1,2</sup> The importance of the aquaporin water channels was underscored by awarding of the 2003 Nobel Prize in Chemistry to Peter Agre “for the discovery of water channels”. All aquaporins bear common structural features, containing intracellular N- and C-termini and six transmembrane segments separated by five connecting loops.<sup>2</sup> Aquaporin-mediated water flow *in vivo* is directed by osmotic or hydraulic gradients, and most mammalian aquaporins are inhibited by mercurials.<sup>1,2</sup>

Aquaporin 5 (AQP5) is expressed in secretory glands, lung, and eye, where it works in modulating the rate of fluid release. Since a number of pathological conditions including Sjögren’s syndrome, pulmonary edema, respiratory distress syndrome, and congestive heart failure are characterized by disrupted fluid transport, it has been suggested that modulation of the expression of AQP5 could be a novel modality of treatment of some of the above illnesses.<sup>1,2</sup>

#### Reagent

Supplied as a lyophilized powder from phosphate buffered saline, pH 7.4, containing 1% BSA and  $\leq 0.1\%$  sodium azide as preservative.

#### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

#### 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  $2\text{--}8\text{ }^\circ\text{C}$  for up to 2 weeks. For longer storage, freeze in working aliquots. Repeated freezing and thawing, or 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 ( $10,000 \times g$  for 5 minutes). Working dilution samples should be discarded if not used within 12 hours.

#### Product Profile

**Immunoblotting:** the recommended working dilution is 1:200 to 1:500

**Note:** In order to obtain the best results in various techniques and preparations, it is recommended to determine the optimal working dilution by titration.

#### 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).

TT,SC,KAA,PHC,MAM 04/19-1