

## Product datasheet for **TA329016**

### Aqp4 Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3,000; FC: 1:50-1:600
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	GST fusion protein with the sequence EYVFCPDVELKRRLKEAFSK AAQQTGKSYMEVEDNRSQVETEDLILKPGVWHVIDIDRGDEKKGK DSSGEVLSSV, corresponding to amino acid residues 249-323 of rat AQP4. Intracellular, C-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN <sub>3</sub> .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	The serum was depleted of anti-GST antibodies by affinity chromatography on immobilized GST, and then affinity purified with Protein A chromatography.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	aquaporin 4
Database Link:	<a href="#">NP_036957</a> <a href="#">Entrez Gene 361 Human</a> <a href="#">Entrez Gene 11829 Mouse</a> <a href="#">Entrez Gene 25293 Rat</a> <a href="#">P47863</a>



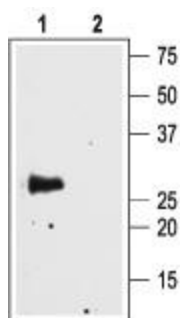
[View online »](#)

**Background:**

Aquaporin 4 (AQP-4) belongs to a family of membrane proteins that allow passage of water and certain solutes through biological membranes. The family is composed of 13 members (AQP-0 to AQP-12). The aquaporins can be divided into two functional groups based on their permeability characteristics: the aquaporins that are only permeated by water and the aquaglyceroporins that are permeated by water and other small solutes such as glycerol. AQP-4 together with AQP-1, AQP-2 and AQP-5 belongs to the first group. Little is known about the function of the two newest members, AQP-11 and AQP-12. The proteins present a conserved structure of six transmembrane domains with intracellular N- and C-termini. The functional channel is a tetramer but each subunit has a separate pore and therefore the functional channel unit, contains four pores. AQP-4 is the major membrane water channel in the central nervous system. The channel is expressed in astrocyte foot processes in direct contact with capillary vessels in the brain suggesting a role in water transport under normal and pathological conditions. Indeed, transgenic mice lacking AQP-4 have reduced brain swelling and improved neurological outcome following water intoxication and focal cerebral ischemia. In contrast, brain swelling and clinical outcome are worse in AQP-4- mice in models of vasogenic (fluid leak) edema caused by freeze-injury and brain tumor, probably due to impaired AQP-4-dependent brain water clearance. In addition, it has been recently shown that neuromyelitis optica (NMO), an inflammatory demyelinating disease that selectively affects optic nerves and spinal cord, is caused by the development of an autoantibody directed against AQP-4.

**Synonyms:**

AQP-4; aquaporin-4; HMIWC2; MGC22454; MIWC; WCH4

**Product images:**

Western blot analysis of rat brain membranes: 1. Anti-Aquaporin 4 (249-323) antibody, (1:1000). 2. Anti-Aquaporin 4 (249-323) antibody, preincubated with the control fusion protein.