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Anti-Aquaporin 4 Antibody

Our Anti-Aquaporin 4 rabbit polyclonal primary antibody from PhosphoSolutions is produced in-house.
Catalog # AN1315

Product Information

Application	WB
Primary Accession	P47863
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	34480

Additional Information

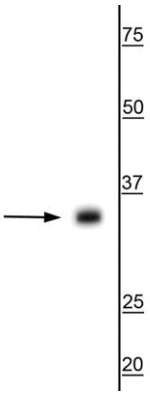
Gene ID	25293
Other Names	AQP 4 antibody, AQP-4 antibody, AQP4 antibody, AQP4_HUMAN antibody, Aquaporin type 4 antibody, Aquaporin-4 antibody, Aquaporin4 antibody, HMIWC 2 antibody, HMIWC2 antibody, Mercurial insensitive water channel antibody, Mercurial-insensitive water channel antibody, MGC22454 antibody, MIWC antibody, WCH 4 antibody, WCH4 antibody
Target/Specificity	Aquaporin-4 (AQP4), a bidirectional water channel protein, is the most expressed aquaporin within the central nervous system. AQP4 is predominantly expressed by astrocytes and ependymal cells within the blood-brain-barrier and ependymal-cerebrospinal fluid barriers (Verkman, et al 2011). AQP4 plays a role in synaptic plasticity (Skucas et al, 2011), astrocyte mitigation (Saadoun et al, 2005), and K+ homeostasis (Binder et al, 2006). Due to the significant role AQP4 plays in cognition, it has been reported to be dysregulated in several neurological disorders. Alzheimer's patients have amyloid deposits in the walls of the vasculature known as CAA which causes AQP4 mis-location (Wilcock et al, 2009). Patients with Parkinson's disease have low levels of AQP4 expression which leads to reduced inflammatory response (Chi et al,2011). Reduced levels of AQP4 in traumatic brain injury affects both the acute stage, decreasing the ability to remove excess water from the brain, and in the later stage, by preventing cellular damage and swelling (Zhang et al, 2015).
Dilution	WB~~1:1000
Format	Antigen Affinity Purified from Pooled Serum
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Anti-Aquaporin 4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping	Blue Ice

Background

Aquaporin-4 (AQP4), a bidirectional water channel protein, is the most expressed aquaporin within the central nervous system. AQP4 is predominantly expressed by astrocytes and ependymal cells within the blood-brain-barrier and ependymal-cerebrospinal fluid barriers (Verkman, et al 2011). AQP4 plays a role in synaptic plasticity (Skucas et al, 2011), astrocyte mitigation (Saadoun et al, 2005), and K+ homeostasis (Binder et al, 2006). Due to the significant role AQP4 plays in cognition, it has been reported to be dysregulated in several neurological disorders. Alzheimer's patients have amyloid deposits in the walls of the vasculature known as CAA which causes AQP4 mis-location (Wilcock et al, 2009). Patients with Parkinson's disease have low levels of AQP4 expression which leads to reduced inflammatory response (Chi et al,2011). Reduced levels of AQP4 in traumatic brain injury affects both the acute stage, decreasing the ability to remove excess water from the brain, and in the later stage, by preventing cellular damage and swelling (Zhang et al, 2015).

Images



Western blot of rat whole brain lysate showing specific immunolabeling of the ~35 kDa AQP4 protein.