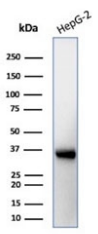
AQP4 Water Channel Antibody AQP4/3323 / Aquaporin-4 Antibody [clone AQP4/3323] (V5750)

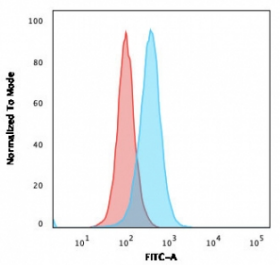
Catalog No.	Formulation	Size
V5750-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5750-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5750SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

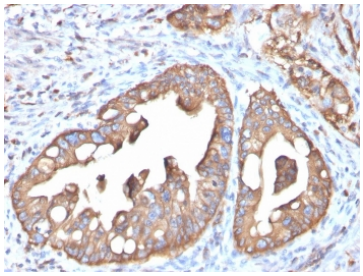
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	AQP4/3323
Purity	Protein G affinity
UniProt	P55087
Localization	Cell membrane, cytoplasm
Applications	Flow cytometry: 1-2ug/million cells Immunohistochemistry (FFPE): 1-2ug/ml Western blot: 2-4ug/ml
Limitations	This AQP4 Water Channel Antibody AQP4/3323 / Aquaporin-4 Antibody is available for research use only.



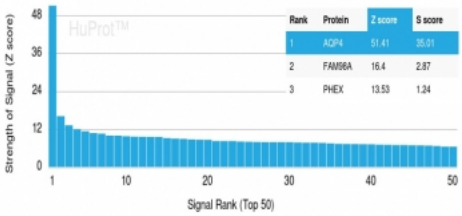
AQP4 Water Channel Antibody AQP4/3323 Detection in Human Brain by WB. Western blot analysis of human brain tissue lysate using AQP4 Water Channel Antibody (clone AQP4/3323) shows a strong, discrete band at approximately 35-40 kDa with minimal visible background. The observed migration is consistent with the reported approximately 35-45 kDa range for AQP4, which can vary with glycosylation. The clean predominant band demonstrates detection of AQP4 in human brain lysate using this Aquaporin-4 Antibody.



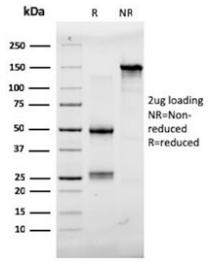
AQP4 Water Channel Antibody AQP4/3323 Detection in Human Ramos B Lymphocytes by FACS. Flow cytometry analysis of PFA-fixed human Ramos B lymphocytes using AQP4 Water Channel Antibody (clone AQP4/3323) shows a clear rightward shift of the antibody-stained population (blue) relative to the isotype control (red). The separation between the two populations demonstrates detection of AQP4 in fixed Ramos cells using this Aquaporin-4 Antibody.



AQP4 Water Channel Antibody AQP4/3323 Staining in Human Small Intestine by IHC. Immunohistochemistry staining of FFPE human small intestine using AQP4 Water Channel Antibody (clone AQP4/3323) shows strong brown staining of epithelial structures, with prominent membranous and cytoplasmic labeling. HIER was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min followed by cooling before testing. The distinct epithelial staining demonstrates detection of AQP4 in human small intestine sections using this Aquaporin-4 Antibody.



AQP4 Water Channel Antibody AQP4/3323 Protein Microarray Validated. Protein microarray analysis of AQP4 Water Channel Antibody (clone AQP4/3323) on a HuProt array containing more than 19,000 full-length human proteins identifies AQP4 as the highest-ranked signal with strong separation from the next-ranked protein. The Z-score represents target signal strength in standard deviations above the array mean, while the S-score measures separation between AQP4 and the next-ranked protein. The strong target separation provides additional specificity evidence for this Aquaporin-4 Antibody.



AQP4 Water Channel Antibody AQP4/3323 Purity and Integrity by SDS-PAGE. SDS-PAGE analysis of 2 ug purified, BSA-free AQP4 Water Channel Antibody (clone AQP4/3323) shows immunoglobulin heavy and light chains at approximately 50 kDa and 25 kDa under reducing conditions. Under non-reducing conditions, the intact antibody migrates as a prominent band at approximately 150 kDa. The expected reducing and non-reducing migration patterns support the integrity and purity of this Aquaporin-4 Antibody preparation.

Description

AQP4 Water Channel Antibody recognizes aquaporin 4 (AQP4), an integral membrane protein that forms highly selective channels for the movement of water across cell membranes. AQP4 belongs to the aquaporin family and is an important regulator of tissue water balance and cellular responses to osmotic changes. The channel permits rapid bidirectional water movement according to osmotic gradients while restricting the passage of ions and most other solutes.

AQP4 is particularly abundant in the central nervous system, where it is expressed prominently by astrocytes. Within the brain, AQP4 is concentrated at astrocytic endfeet surrounding blood vessels and at other interfaces involved in fluid exchange. This polarized distribution contributes to brain water homeostasis, extracellular fluid regulation, and maintenance of the local neural environment. AQP4 is also expressed outside the nervous system in several epithelial and other specialized tissues where regulated water transport is physiologically important.

AQP4 exists in multiple molecular forms, including the major M1 and M23 isoforms produced through alternative translation initiation. AQP4 monomers assemble into tetrameric channels in the plasma membrane, and these tetramers can further organize into higher-order structures known as orthogonal arrays of particles. The relative abundance and organization of AQP4 are studied in connection with cerebral edema, tissue injury, inflammation, and other conditions involving disturbed water homeostasis. AQP4 is also the principal autoantigen in neuromyelitis optica spectrum disorder,

in which pathogenic autoantibodies recognize extracellular regions of the channel.

Clone AQP4/3323 is a mouse monoclonal antibody generated against a recombinant fragment from within amino acids 200-323 of human AQP4. This Aquaporin-4 Antibody provides a defined reagent for investigating AQP4 expression and complements other approaches to studying membrane water transport, tissue fluid regulation, and AQP4 biology. NSJ Bioreagents supplies clone AQP4/3323 for research use only.

An AQP4 Water Channel Antibody can be used to investigate aquaporin 4 expression and its relationship to membrane water permeability, fluid homeostasis, astrocyte biology, tissue physiology, and conditions associated with altered AQP4 expression or localization.

For an AQP4 monoclonal with complementary Western blot, IHC, and protein microarray validation, see our Aquaporin 4 Antibody AQP4/3321 / AQP4 Monoclonal Antibody page.

Application Notes

Optimal dilution of the AQP4 Water Channel Antibody AQP4/3323 / Aquaporin-4 Antibody should be determined by the researcher.

Immunogen

A human partial recombinant protein (from within amino acids 200-323) was used as the immunogen for the AQP4 Water Channel Antibody AQP4/3323.

Storage

Aliquot the AQP4 Water Channel Antibody AQP4/3323 and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

AQP4 antibody, aquaporin 4 antibody, aquaporin-4 antibody, mercurial insensitive water channel antibody, MIWC antibody, WCH4 antibody

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