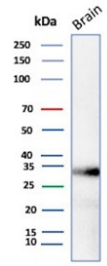
Aquaporin 4 Antibody AQP4/3321 / AQP4 Monoclonal Antibody [clone AQP4/3321] (V5748)

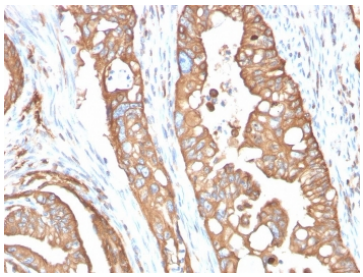
Catalog No.	Formulation	Size
V5748-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5748-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5748SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

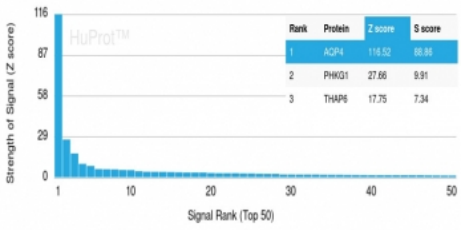
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	AQP4/3321
Purity	Protein G affinity
UniProt	P55087
Localization	Cell membrane, cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml Western blot: 2-4ug/ml
Limitations	This Aquaporin 4 Antibody AQP4/3321 / AQP4 Monoclonal Antibody is available for research use only.



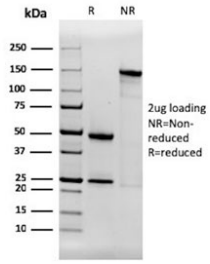
Aquaporin 4 Antibody AQP4/3321 Detects AQP4 in Human Brain WB. Western blot analysis of human brain tissue lysate using Aquaporin 4 Antibody (clone AQP4/3321) shows a strong, discrete band at approximately 35 kDa with very little visible background. AQP4 can migrate within an approximately 30-45 kDa range depending on isoform and post-translational modification. The prominent band observed in human brain demonstrates detection of AQP4 using this AQP4 Monoclonal Antibody.



Aquaporin 4 Antibody AQP4/3321 Staining in Human Small Intestine IHC. Immunohistochemistry staining of FFPE human small intestine using Aquaporin 4 Antibody (clone AQP4/3321) shows strong brown staining associated predominantly with epithelial structures, with prominent membranous and cytoplasmic signal. HIER was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min followed by cooling before testing. A PBS negative-control inset shows minimal staining, supporting the primary antibody-dependent signal observed with this AQP4 Monoclonal Antibody.



Aquaporin 4 Antibody AQP4/3321 Protein Microarray Validated. Protein microarray analysis of Aquaporin 4 Antibody (clone AQP4/3321) on a HuProt array containing more than 19,000 full-length human proteins identifies AQP4 as the highest-ranked signal with clear separation from the remaining proteins. 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 specificity evidence for this AQP4 Monoclonal Antibody.



Aquaporin 4 Antibody AQP4/3321 Purity and Integrity by SDS-PAGE. SDS-PAGE analysis of 2 ug purified, BSA-free Aquaporin 4 Antibody (clone AQP4/3321) shows distinct immunoglobulin heavy and light chains at approximately 50 kDa and 25 kDa, respectively, under reducing conditions. Under non-reducing conditions, the intact antibody migrates as a prominent band at approximately 150 kDa. The expected migration patterns support the integrity and purity of this AQP4 Monoclonal Antibody preparation.

Description

Aquaporin 4 Antibody AQP4/3321 recognizes aquaporin 4 (AQP4), an integral membrane water channel that facilitates the movement of water across cell membranes. AQP4 belongs to the aquaporin family of channel proteins and is notable for its high water permeability and selective distribution among different tissues and cell types. By regulating transmembrane water movement, AQP4 contributes to fluid homeostasis and cellular responses to changes in osmotic conditions.

AQP4 is expressed prominently in the central nervous system, where it is enriched in astrocytes and is concentrated at astrocytic endfeet associated with blood vessels and other fluid interfaces. This distribution supports important roles in brain water balance, extracellular fluid regulation, and maintenance of the local tissue environment. AQP4 is also expressed outside the nervous system, including epithelial and muscle-associated tissues, reflecting broader functions for the channel in physiological water transport and tissue fluid regulation.

AQP4 occurs in multiple molecular forms generated through alternative translation initiation and other mechanisms affecting channel organization. AQP4 molecules assemble as tetramers in the plasma membrane and can form higher-order structures known as orthogonal arrays of particles. The abundance, localization, and organization of AQP4 are studied in relation to normal water homeostasis as well as edema, tissue injury, inflammatory processes, and disorders involving altered fluid balance. AQP4 is also an important antigen in neuromyelitis optica spectrum disorder, where pathogenic autoantibodies directed against extracellular AQP4 epitopes are a defining feature of the disease.

Clone AQP4/3321 is a mouse monoclonal antibody generated against a recombinant fragment from within amino acids 200-323 of human AQP4. This AQP4 Monoclonal Antibody provides a defined reagent for investigating aquaporin 4 expression across tissues and complements studies of water-channel distribution, membrane biology, and tissue fluid regulation. NSJ Bioreagents supplies clone AQP4/3321 for research use only.

An Aquaporin 4 Antibody can be used to investigate AQP4 expression and its relationship to membrane water transport, fluid homeostasis, tissue physiology, and disorders associated with altered AQP4 expression or localization.

Explore our Neuroscience Antibodies page for additional antibodies targeting proteins involved in neural cell biology, CNS physiology, and nervous system research.

Application Notes

Optimal dilution of the Aquaporin 4 Antibody AQP4/3321 / AQP4 Monoclonal 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 Aquaporin 4 Antibody AQP4/3321.

Storage

Aliquot the Aquaporin 4 Antibody AQP4/3321 and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

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

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