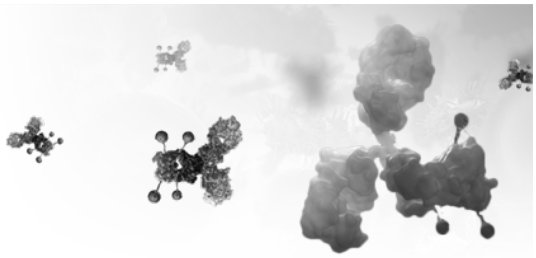

Mouse Anti-Human AQP4 (ECD) monoclonal antibody, clone NFDE (CABT-L644M)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Product Overview	Mouse monoclonal to Aquaporin 4
Specificity	This product specifically detects Aquaporin-4 in human, mouse, and rat brain tissue sections. It targets an epitope with in the extracellular region.
Target	AQP4
Immunogen	His-tagged full-length human recombinant Aquaporin-4.
Isotype	IgG1, κ
Source/Host	Mouse
Species Reactivity	Mouse, Human, Rat
Clone	NFDE
Purification	Protein G purified
Conjugate	Unconjugated
Applications	FC, IF, IHC, IP
Epitope	Extracellular domain
Format	Purified, Liquid
Concentration	Lot specific
Size	100 µg

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Buffer	PBS
Preservative	None
Storage	Long time storage is recommended at -20°C. Avoid repeated freeze/thaw cycles.
Ship	Wet ice

BACKGROUND

Introduction	Aquaporin-4 is a multi-pass membrane protein that forms a water-specific channel and serves as an osmoreceptor that regulates body water balance and mediates water flow within the central nervous system. Its extracellular domains are localized to amino acids 58-64, 137-155, and 206-231; its transmembrane domains are in amino acids 37-57, 65-85, 116-136, 156-176, 185-205, and 232-252; and the cytoplasmic domain is in amino acids 1-36, 86-115, 177-184, and 253-323. Aquaporin-4 is largely expressed in the brain and the skeletal muscle and at lower levels in heart, kidney, and lung tissue. Phosphorylation of Aquaporin-4 at Serine 180 by protein kinase C is shown to reduce conductance by about 50%, whereas phosphorylation at Serine 111 by protein kinase G in response to glutamate can increase conductance by about 40%. Two isoforms of Aquaporin-4 have been described that are produced by alternative splicing. Antibodies to Aquaporin-4 can serve as useful serum markers to distinguishing neuromyelitis optica (NMO) from multiple sclerosis. Clone mECD is shown to induce clustering and internalization of Aquporin-4 and cause its redistribution, which is also observed with NMO-IgG. Exposure to mECD antibody is also shown to cause coaggregation of astrocytic CD28B and Aquaporin-4.
Keywords	AQP4; aquaporin 4; MIWC; HMIWC2; aquaporin-4; WCH4; aquaporin type4; aquaporin 4 isoform delta4; mercurial-insensitive water channel

GENE INFORMATION

Gene Name	AQP4 aquaporin 4 [Homo sapiens (human)]
Official Symbol	AQP4
Synonyms	AQP4; aquaporin 4; MIWC; HMIWC2; aquaporin-4; WCH4; aquaporin type4; aquaporin 4 isoform delta4; mercurial-insensitive water channel
Entrez Gene ID	361
Protein Refseq	NP_001641
UniProt ID	P55087

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Pathway	Aquaporin-mediated transport, organism-specific biosystem; Bile secretion, organism-specific biosystem; Bile secretion, conserved biosystem; Regulation of Water Balance by Renal Aquaporins, organism-specific biosystem; Transmembrane transport of small molecules, organism-specific biosystem; Vasopressin-regulated water reabsorption, organism-specific biosystem; Vasopressin-regulated water reabsorption, conserved biosystem
Function	Porin activity; transporter activity; water channel activity; water channel activity

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