10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Aquaporin 4 Monoclonal Antibody(4H1)

Catalog # AP63316

Specification

Aquaporin 4 Monoclonal Antibody(4H1) - Product Information

Application	**WB, IHC-P, IF**
Primary Accession	P55087
Reactivity	**Human, Mouse, Rat**
Host	**Mouse**
Clonality	**Monoclonal**

Aquaporin 4 Monoclonal Antibody(4H1) - Additional Information

Gene ID 361

Other Names
AQP4; Aquaporin-4; AQP-4; Mercurial-insensitive water channel; MIWC; WCH4

Dilution
WB~~WB: 1:1000 IF: 1:100-200 IHC 1:50-300
IHC-P~~N/A
IF~~WB: 1:1000 IF: 1:100-200 IHC 1:50-300

Format
PBS, pH 7.4, containing 0.09% (W/V) sodium azide as Preservative and 50% Glycerol.

Storage Conditions
-20℃

Aquaporin 4 Monoclonal Antibody(4H1) - Protein Information

Name AQP4

Function
Forms a water-specific channel (PubMed:19383790, PubMed:7559426, PubMed:8601457). Plays an important role in brain water homeostasis (PubMed:37143309). It is involved in glymphatic solute transport and is required for a normal rate of water exchange across the blood brain interface. Required for normal levels of cerebrospinal fluid influx into the brain cortex and parenchyma along paravascular spaces that surround penetrating arteries, and for normal drainage of interstitial fluid along paravenous drainage pathways. Thereby, it is required for normal clearance of solutes from the brain interstitial fluid, including soluble beta-amyloid peptides derived from APP. Plays a redundant role in urinary water homeostasis and urinary concentrating ability (By similarity).

Cellular Location

Cell membrane; Multi-pass membrane protein. Basolateral cell membrane {ECO:0000250|UniProtKB:P55088}; Multi-pass membrane protein. Endosome membrane {ECO:0000250|UniProtKB:P47863}. Cell membrane, sarcolemma; Multi-pass membrane protein. Cell projection {ECO:0000250|UniProtKB:P47863}. Note=Activation of the vasopressin receptor AVPR1A triggers AQP4 phosphorylation at Ser-180 and promotes its internalization from the cell membrane. Detected on brain astrocyte processes and astrocyte endfeet close to capillaries {ECO:0000250|UniProtKB:P47863}

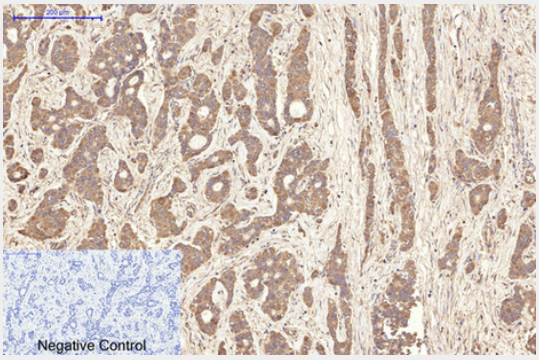
Tissue Location
Detected in skeletal muscle (PubMed:29055082). Detected in stomach, along the glandular base region of the fundic gland (at protein level) (PubMed:8601457). Detected in brain, lung and skeletal muscle, and at much lower levels in heart and ovary (PubMed:7559426, PubMed:8601457).

Aquaporin 4 Monoclonal Antibody(4H1) - Protocols

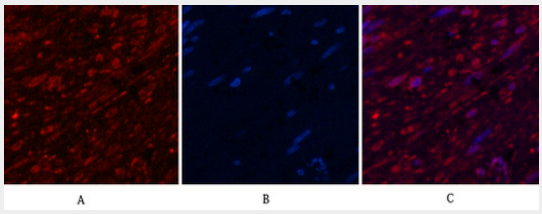
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Aquaporin 4 Monoclonal Antibody(4H1) - Images



Immunohistochemical analysis of paraffin-embedded Human-liver-cancer tissue. 1,Aquaporin 4 Monoclonal Antibody(4H1) was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



Immunofluorescence analysis of Human-appendix tissue. 1,Aquaporin 4 Monoclonal Antibody(4H1)(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labled Secondary antibody was

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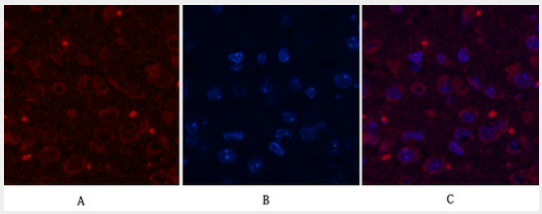
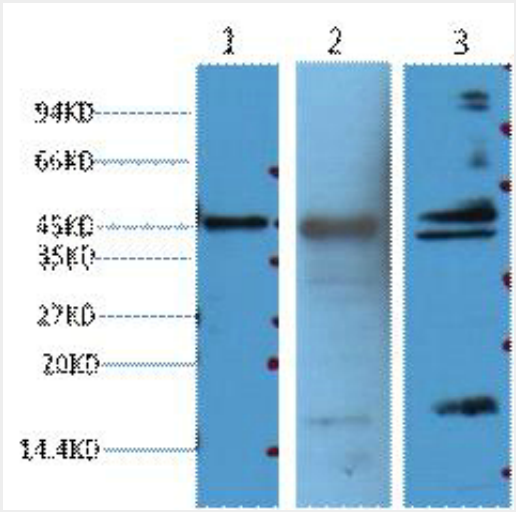
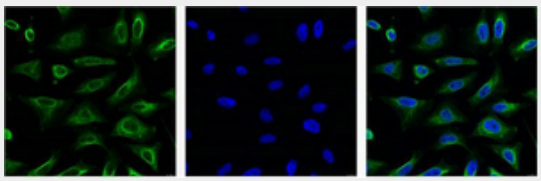
diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B



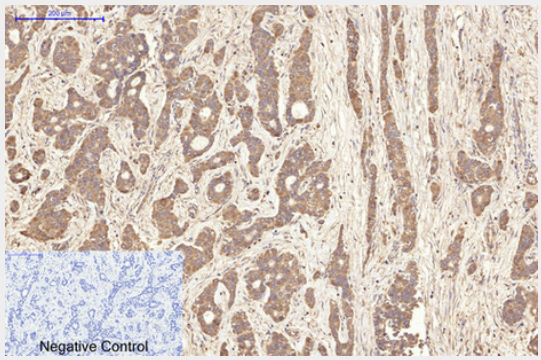
Immunofluorescence analysis of Mouse-brain tissue. 1,Aquaporin 4 Monoclonal Antibody(4H1)(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B



Western blot analysis of 1) Hela, 2) Mouse Heart tissue, 3) Rat Heart Tissue, diluted at 1:2000.



IF analysis of Hela with antibody (Left) and DAPI (Right) diluted at 1:100.



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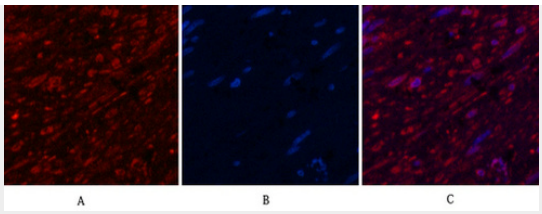

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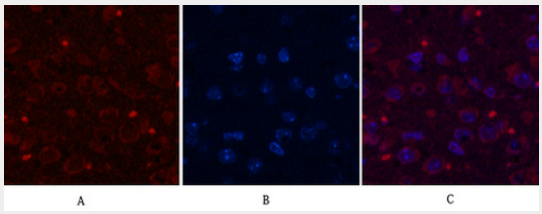

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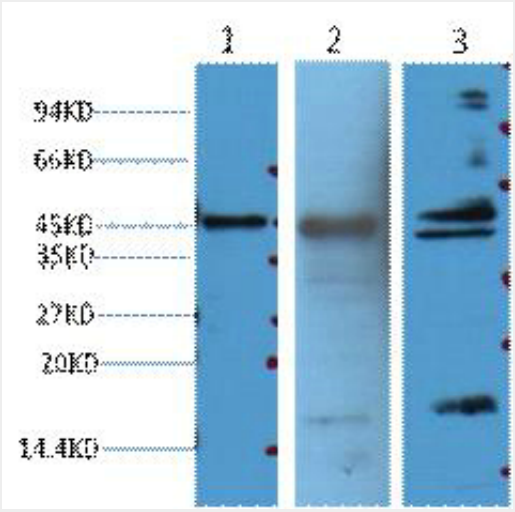

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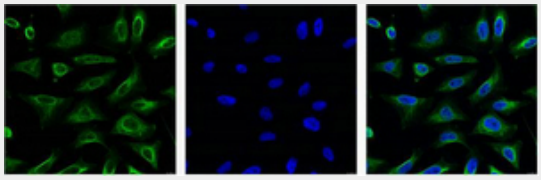

IF analysis of Hela with antibody (Left) and DAPI (Right) diluted at 1:100.

Aquaporin 4 Monoclonal Antibody(4H1) - Background

Forms a water-specific channel. Osmoreceptor which regulates body water balance and mediates water flow within the central nervous system.