abcam

ab225225

Alexa Fluor® 647 Anti-Aquaporin 1 antibody [EPR11588(B)]

Anti-Aquaporin 1 antibody [EPR11588(B)] - Alexa Fluor® 647 conjugated (ab225225) is a rabbit recombinant monoclonal antibody detecting Aquaporin 1 in **ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR11588(B)
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	This product gave a positive signal in 293T cells transfected with AQP1 with GFP tag fixed with 4% formaldehyde (10 min)

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information AQP1

Function	Forms a water channel that facilitates the transport of water across cell membranes, playing a crucial role in water homeostasis in various tissues (PubMed:1373524, PubMed:23219802). Could also be permeable to small solutes including hydrogen peroxide, glycerol and gases such as amonnia (NH3), nitric oxide (NO) and carbon dioxide (CO2) (PubMed:16682607, PubMed:17012249, PubMed:19273840, PubMed:33028705, PubMed:8584435). Recruited to the

ankyrin-1 complex, a multiprotein complex of the erythrocyte membrane, it could be part of a CO2 metabolon, linking facilitated diffusion of CO2 across the membrane, anion exchange of Cl(-)/HCO3(-) and interconversion of dissolved CO2 and carbonic acid in the cytosol (PubMed:17012249, PubMed:35835865). In vitro, it shows non-selective gated cation channel activity and may be permeable to cations like K(+) and Na(+) in vivo (PubMed:36949749, PubMed:8703053).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Stable for 12 months at -20°C, Store in the dark

Notes

What is this antibody validated in?
Alexa Fluor® 647 Anti-Aquaporin 1 antibody [EPR11588(B)] (ab225225) is a rabbit recombinant monoclonal antibody and is validated for use in Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

Related products
Antibody clone EPR11588(B) is also available pre-conjugated to a variety of labels for your convenience – Anti-Aquaporin 1 Alexa Fluor® 647 [EPR11588(B)] (ab225225).

Other related products
We have a range of other formats of antibody clone [EPR11588(B)] also available for your convenience: ab168387, Carrier free - ab178352, Alexa Fluor® 647 - ab225225, PE - ab303074, APC - ab303075, HRP - ab303076, Alkaline Phosphatase - ab308672, Alexa Fluor® 488 - ab309643, Alexa Fluor® 594 - ab310374, Alexa Fluor® 555 - ab314335

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply

- Animal-free batch production

For more information, read more on recombinant antibodies.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Aquaporin 1 also known as Aquaporin-1 AQP-1 or AQP1 is a protein that functions as a water channel facilitating the transport of water across cell membranes. This protein plays an important role in maintaining water homeostasis within cells. Aquaporin 1 has a mass of approximately 28 kDa and is encoded by the AQP1 gene. It is expressed in various tissues and organs including the kidneys lungs and red blood cells indicating its importance in diverse physiological processes.
Biological function summary	Aquaporin 1 is not part of a complex but independently contributes to maintaining osmotic balance and fluid movement across epithelial and endothelial tissues. The protein's selective permeability for water without allowing ions or other solutes highlights its specificity in controlling water transport which is essential for maintaining cellular environment stability.
Pathways	The aquaporin protein is involved in key biological pathways such as the osmoregulatory pathway and the fluid secretion pathway. It maintains efficient water transport in processes like urine concentration in the kidneys and fluid regulation in the pulmonary system. Aquaporins in general are related to similar transport proteins like sodium channels which together play an important role in maintaining osmotic balance across various tissues.
Associated diseases and disorders	Aquaporin 1's dysfunction has been associated with conditions such as nephrogenic diabetes insipidus and pulmonary edema. These are linked to its role in water reabsorption in the kidneys and fluid balance in the lungs. The disorder's connection ties Aquaporin-1 with other regulatory proteins such as vasopressin receptors which work in conjunction to control renal water reabsorption and response to fluid imbalance.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

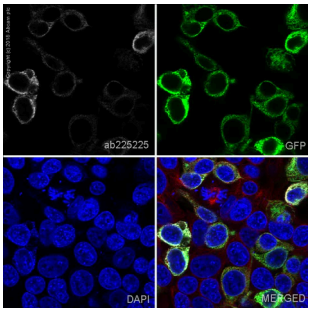
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-Aquaporin 1 antibody [EPR11588(B)] (ab225225)

Aquaporin 1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Aquaporin 1 antibody

ab225225 staining Aquaporin 1 in 293T cells transfected with AQP1 with GFP tag. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab225225 at 1/100 dilution (**pseudocolored in white**) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue) and GFP is shown in green.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.