abcam

ab125219

Anti-Aquaporin 3 antibody

Anti-Aquaporin 3 antibody (ab125219) is a rabbit polyclonal antibody detecting Aquaporin 3 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Over 60 publications

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.025% Sodium azide, 0.025% Thimerosal (merthiolate) Constituents: 2.5% BSA, 0.45% Sodium chloride, 0.1% Disodium hydrogenorthophosphate
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human AQP3 aa 250-300. The exact immunogen used to generate this antibody is proprietary information. Database link Q92482
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	2-5 µg/mL
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Rat
Dilution info	2-5 µg/mL
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Human
Dilution info	2-5 µg/mL
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	0.1-0.5 µg/mL
Notes	-

Species	Rat
Dilution info	0.1-0.5 µg/mL
Notes	-

Species	Human

Dilution info	0.1-0.5 µg/mL
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1-3 µg/cells
Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information AQP3

Function	Aquaglyceroporins form homotetrameric transmembrane channels, with each monomer independently mediating glycerol and water transport across the plasma membrane along their osmotic gradient (PubMed:12239222, PubMed:30420639). Could also be permeable to urea (By similarity). Also participates in cell permeability to H2O2 and H2O2-mediated signaling (PubMed:20724658). In skin, transports glycerol to the epidermis and stratum corneum, where it maintains hydration, elasticity, and supports lipid biosynthesis for barrier repair (By similarity). In kidney, contributes to the reabsorption of water, helping the body maintain proper fluid balance (By similarity).

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

Notes

What is this antibody validated in?
Anti-Aquaporin 3 antibody (ab125219) is a rabbit polyclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of Aquaporin 3?
Anti-Aquaporin 3 (ab125219) specifically detects a band for Aquaporin 3 (UniProt: Q92482) at a molecular weight of 32kDa.

Trusted by the scientific community
Anti-Aquaporin 3 (ab125219) was first used in a scientific publication in 2012 and has been cited over 60 times in peer-reviewed journals.

Reviewed by scientists
Anti-Aquaporin 3 (ab125219) has over 5 independent reviews from customers.

Supplementary info

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

Activity summary	Aquaporin 3 (AQP3) also known as AQP-3 is a water and glycerol channel protein with a molecular weight of approximately 31 kDa. It facilitates the transport of water glycerol and other small solutes across cell membranes. AQP3 is expressed in a variety of tissues including the epidermis kidney respiratory tract and gastrointestinal tract. The protein's ability to transport glycerol is especially important in maintaining skin hydration and elasticity.
Biological function summary	Aquaporin channels such as AQP3 aid in the osmotic balance and are part of the cell membrane's permeability machinery. AQP3 forms functional homotetrameric structures that integrate into the plasma membrane. Each monomer of AQP3 contains a pore for the passage of water and other small molecules. This structural arrangement allows cells to regulate fluid movement and maintain homeostasis particularly in epithelial tissues.
Pathways	AQP3 engages in the regulation of transepithelial water movement and is involved in glycerol metabolism pathways. It interacts with proteins such as AQP1 and AQP4 supporting fluid transport across various organs. In epidermal cells AQP3 plays a role in the glycerol transport pathway important for skin barrier function and

	wound healing processes. Its role in these pathways highlights its contribution to cellular hydration and metabolic functions.
Associated diseases and disorders	AQP3 has links to conditions like psoriasis and kidney dysfunction. Aberrant expression of AQP3 can contribute to skin disorders by disrupting hydration balance and affecting glycerol transport. In the kidney altered AQP3 expression impacts water reabsorption and can exacerbate renal pathologies. The interaction of AQP3 with other aquaporins like AQP1 suggests a collaborative role in disease progression through shared pathways involving fluid balance anomalies.

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

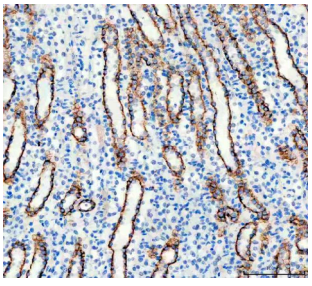
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images



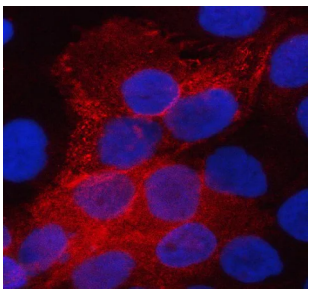
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 3 antibody (ab125219)

Aquaporin 3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat kidney tissue using rabbit Anti-Aquaporin 3 antibody

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling Aquaporin 3 with ab125219 at 2 ug/ml. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C.
The section was blocked with 10% goat serum then incubated with ab125219 overnight at 4°C.

The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.

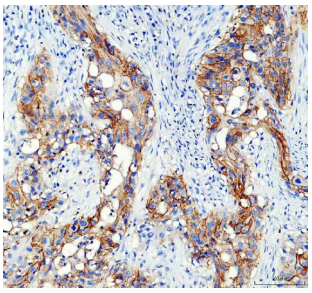
Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution).



Immunocytochemistry/ Immunofluorescence - Anti-Aquaporin 3 antibody (ab125219)

Aquaporin 3 Immunocytochemistry/ Immunofluorescence staining of A431 (human epidermoid carcinoma cell line) cells using rabbit Anti-Aquaporin 3 antibody

Immunocytochemistry/ Immunofluorescence analysis of A431 (human epidermoid carcinoma cell line) cells labeling Aquaporin 3 with ab125219 at 5 µg/mL. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5µg/mL rabbit anti- AQP3 Antibody, ab125219, overnight at 4°C. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

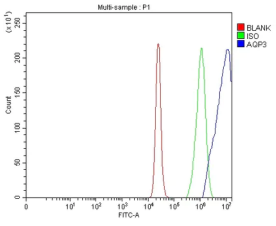


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 3 antibody (ab125219)

Immunohistochemical analysis of paraffin-embedded human bladder cancer tissue labeling Aquaporin 3 with ab125219 at 2 ug/ml. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C.
The section was blocked with 10% goat serum then incubated with ab125219 overnight at 4°C.

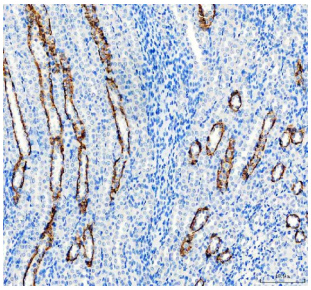
The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.

Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution).



Flow Cytometry (Intracellular) - Anti-Aquaporin 3 antibody (ab125219)

Overlay histogram showing RT4 cells stained with ab125219 (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with ab125219 (1µg/1x10^6 cells) for 30 min at 20°C. DyLight® 488 conjugated goat anti-rabbit IgG (5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

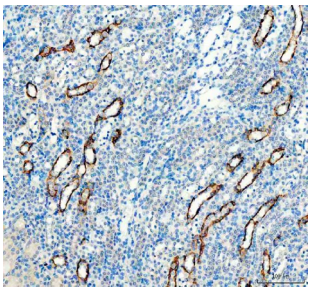


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 3 antibody (ab125219)

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling Aquaporin 3 with ab125219 at 2 ug/ml. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C.
The section was blocked with 10% goat serum then incubated with ab125219 overnight at 4°C.

The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.

Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 3 antibody (ab125219)

Immunohistochemical analysis of paraffin-embedded mouse kidney tissue labeling Aquaporin 3 with ab125219 at 2 ug/ml. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C.
The section was blocked with 10% goat serum then incubated with ab125219 overnight at 4°C.

The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.

Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution).

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