Anti-Aquaporin 3 antibody ab153694

Overview

Product name  Anti-Aquaporin 3 antibody

Description  Rabbit polyclonal to Aquaporin 3

Host species  Rabbit

Tested applications  Suitable for: ICC/IF, IHC-P, WB

Species reactivity  Reacts with: Human

Predicted to work with: Mouse, Rat, Rabbit, Horse, Chimpanzee, Macaque monkey, Gorilla, Orangutan

Immunogen  Synthetic peptide corresponding to Human Aquaporin 3 aa 250 to the C-terminus (C terminal) conjugated to Keyhole Limpet Haemocyanin (KLH).

Database link: Q92482

Positive control  This antibody gave a positive signal in Human Kidney and Lung tissue lysates as well as the following whole cell lysates: A498; A549; A431. This antibody gave a positive result in IHC in the following FFPE tissue: Human normal kidney. This antibody gave a positive result when used in the following methanol fixed cell lines: A431.

Properties

Form  Liquid

Storage instructions  Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

Storage buffer  pH: 7.40

Preservative: 0.02% Sodium azide

Constituent: PBS

Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.

Purity  Immunogen affinity purified

Clonality  Polyclonal

Isotype  IgG
Function

Water channel required to promote glycerol permeability and water transport across cell membranes. Acts as a glycerol transporter in skin and plays an important role in regulating SC (stratum corneum) and epidermal glycerol content. Involved in skin hydration, wound healing, and tumorigenesis. Provides kidney medullary collecting duct with high permeability to water, thereby permitting water to move in the direction of an osmotic gradient. Slightly permeable to urea and may function as a water and urea exit mechanism in antidiuresis in collecting duct cells. It may play an important role in gastrointestinal tract water transport and in glycerol metabolism.

Tissue specificity

Widely expressed in epithelial cells of kidney (collecting ducts) and airways, in keratinocytes, immature dendritic cells and erythrocytes. Isoform 2 is not detectable in erythrocytes at the protein level.

Sequence similarities

Belongs to the MIP/aquaporin (TC 1.A.8) family.

Domain

Aquaporins contain two tandem repeats each containing three membrane-spanning domains and a pore-forming loop with the signature motif Asn-Pro-Ala (NPA).

Cellular localization

Basolateral cell membrane, in collecting ducts of kidney.

Applications

Our Abpromise guarantee covers the use of ab153694 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abviews</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>ICC/IF</td>
<td></td>
<td>Use a concentration of 5 µg/ml.</td>
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<tr>
<td>IHC-P</td>
<td>★★★☆☆☆</td>
<td>Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
</tr>
<tr>
<td>WB</td>
<td></td>
<td>Use a concentration of 1 µg/ml. Detects a band of approximately 31 kDa (predicted molecular weight: 31 kDa).</td>
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Target

Water channel required to promote glycerol permeability and water transport across cell membranes. Acts as a glycerol transporter in skin and plays an important role in regulating SC (stratum corneum) and epidermal glycerol content. Involved in skin hydration, wound healing, and tumorigenesis. Provides kidney medullary collecting duct with high permeability to water, thereby permitting water to move in the direction of an osmotic gradient. Slightly permeable to urea and may function as a water and urea exit mechanism in antidiuresis in collecting duct cells. It may play an important role in gastrointestinal tract water transport and in glycerol metabolism.

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Images

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ICC/IF image of ab153694 stained A431 cells. The cells were 100% methanol fixed (5 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab153694 at 5µg/ml overnight at +4°C. The secondary antibody (pseudo-colored green) was Alexa Fluor® 488 goat anti- rabbit (ab150081) IgG (H+L) preadsorbed, used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (pseudo-colored red) at a 1/200 dilution for 1h at room temperature. DAPI was used to stain the cell nuclei (pseudo-colored blue) at a concentration of 1.43µM for 1hour at room temperature.

IHC image of Aquaporin 3 staining in Human normal kidney formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab153694, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.
Western blot - Anti-Aquaporin 3 antibody (ab153694)

**All lanes**: Anti-Aquaporin 3 antibody (ab153694) at 1 µg/ml

**Lane 1**: Kidney (Human) Tissue Lysate - adult normal tissue

**Lane 2**: Lung (Human) Tissue Lysate

**Lane 3**: A498 (Human Kidney Carcinoma) Whole Cell Lysate

**Lane 4**: A431 (Human epithelial carcinoma cell line) Whole Cell Lysate

**Lane 5**: A549 (Human lung adenocarcinoma epithelial cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

**Secondary**

**All lanes**: Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size**: 31 kDa

**Observed band size**: 31 kDa

**Additional bands at**: 21 kDa (possible non-specific binding), 25 kDa (possible non-specific binding)

**Exposure time**: 4 minutes

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