

### Anti-Aquaporin 2 antibody [EPR21080] ab199975

リコンビナント **RabMAb**

★★★★★ **2 Abreviews** **8 References** 画像数 9

#### 製品の概要

製品名	Anti-Aquaporin 2 antibody [EPR21080]
製品の詳細	Rabbit monoclonal [EPR21080] to Aquaporin 2
由来種	Rabbit
アプリケーション	<b>適用あり:</b> WB, IHC-P, IHC-Fr, IP, mIHC
種交差性	<b>交差種:</b> Mouse, Rat, Human
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
ポジティブ・コントロール	WB: Human fetal kidney lysate; Mouse kidney lysate. IHC-P: Human, mouse and rat kidney tissues. IHC-Fr: Mouse and rat kidney tissues. IP: Aquaporin 2 IP in mouse kidney lysate. mIHC: Human kidney tissue.
特記事項	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p>

#### 製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
バッファー	<p>pH: 7.2</p> <p>Preservative: 0.01% Sodium azide</p> <p>Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA</p>
精製度	Protein A purified
ポリ/モノ	モノクローナル
アイソタイプ	IgG

## アプリケーション

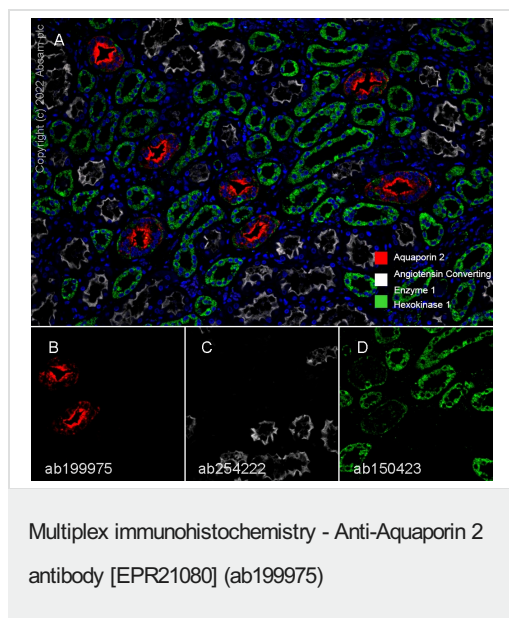
**The Abpromise guarantee** Abpromise保証は、次のテスト済みアプリケーションにおけるab199975の使用に適用されます  
アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
WB		1/500. Predicted molecular weight: 28 kDa.
IHC-P	★★★★★ (1)	1/4000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IHC-Fr		1/3000.
IP		1/30.
mlHC		1/4000.

## ターゲット情報

機能	Forms a water-specific channel that provides the plasma membranes of renal collecting duct with high permeability to water, thereby permitting water to move in the direction of an osmotic gradient.
組織特異性	Expressed in renal collecting tubules.
関連疾患	Diabetes insipidus, nephrogenic, autosomal
配列類似性	Belongs to the MIP/aquaporin (TC 1.A.8) family.
ドメイン	Aquaporins contain two tandem repeats each containing three membrane-spanning domains and a pore-forming loop with the signature motif Asn-Pro-Ala (NPA).
翻訳後修飾	Ser-256 phosphorylation is necessary and sufficient for expression at the apical membrane. Endocytosis is not phosphorylation-dependent.
細胞内局在	Apical cell membrane. Basolateral cell membrane. Cytoplasmic vesicle membrane. Golgi apparatus, trans-Golgi network membrane. Shuttles from vesicles to the apical membrane. Vasopressin-regulated phosphorylation is required for translocation to the apical cell membrane. PLEKHA8/FAPP2 is required to transport AQP2 from the TGN to sites where AQP2 is phosphorylated.

## 画像



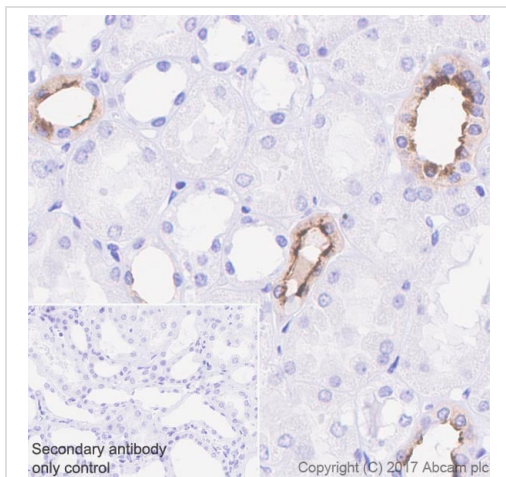
Fluorescence multiplex immunohistochemical analysis of the human kidney (Formalin/PFA-fixed paraffin-embedded sections).

Panel A: merged staining of anti-Hexokinase 1 (**ab150423**, green; Opal™690), anti-Angiotensin Converting Enzyme 1 (**ab254222**, gray; Opal™520) and anti-Aquaporin 2 (ab199975, red; Opal™570) on human kidney. Panel B: anti-Aquaporin 2 stained on collecting tubules. Panel C: anti-Angiotensin Converting Enzyme 1 stained on proximal tubules. Panel D: anti-Hexokinase 1 stained on distal tubules and collecting tubules. Opal Polymer HRP Ms + Rb was used as a secondary antibody.

The section was incubated in three rounds of staining: in the order of **ab150423** at 1/250 dilution (4.224 µg/ml), **ab254222** at 1/4000 dilution (0.141 µg/ml) and ab199975 at 1/4000 dilution (0.152 µg/ml) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins. DAPI (blue) was used as a nuclear counter stain.

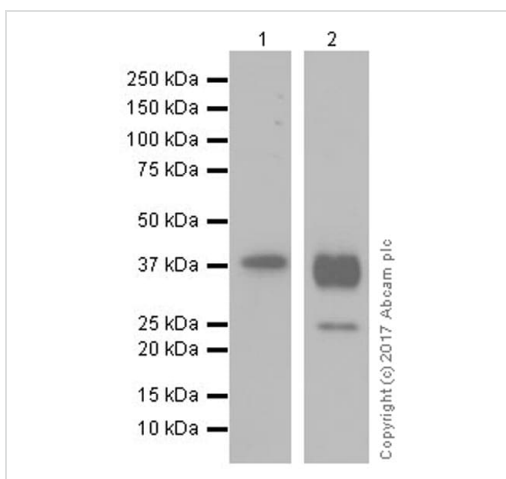


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 2 antibody [EPR21080] (ab199975)

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling Aquaporin 2 with ab199975 at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Luminal surface and tubular cytoplasmic staining on collecting duct of human kidney is observed (PMID: 15703994, PMID: 19546380). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat-mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).



Western blot - Anti-Aquaporin 2 antibody [EPR21080] (ab199975)

**All lanes :** Anti-Aquaporin 2 antibody [EPR21080] (ab199975) at 1/500 dilution

**Lane 1 :** Human fetal kidney lysate

**Lane 2 :** Mouse kidney lysate

Lysates/proteins at 10 µg per lane.

#### Secondary

**All lanes :** VeriBlot for IP Detection Reagent (HRP) (**ab131366**) at 1/1000 dilution

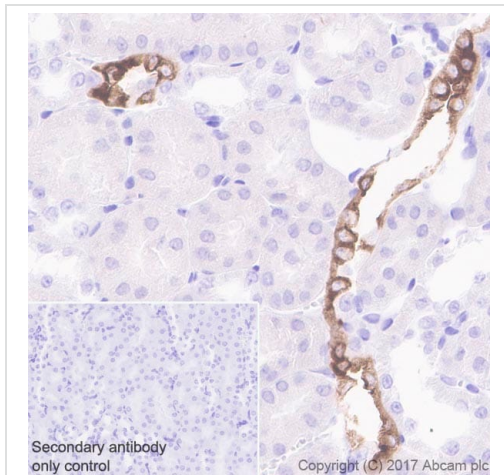
**Predicted band size:** 28 kDa

Blocking/dilution buffer and concentration: 5% NFDM/TBST

Exposure time: 10 seconds.

We recommend customers optimize their lysis buffer and sample preparation for WB. This protein might aggregate during heating of samples.

The molecular mass is consistent with literature (PMID 27405971; PMID 26109089).

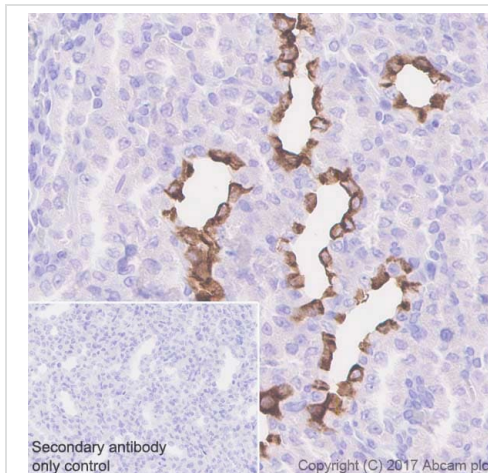


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 2 antibody [EPR21080] (ab199975)

Immunohistochemical analysis of paraffin-embedded mouse kidney tissue labeling Aquaporin 2 with ab199975 at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Luminal surface and tubular cytoplasmic staining on collecting duct of mouse kidney is observed (PMID: 15703994, PMID: 19546380). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat-mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).

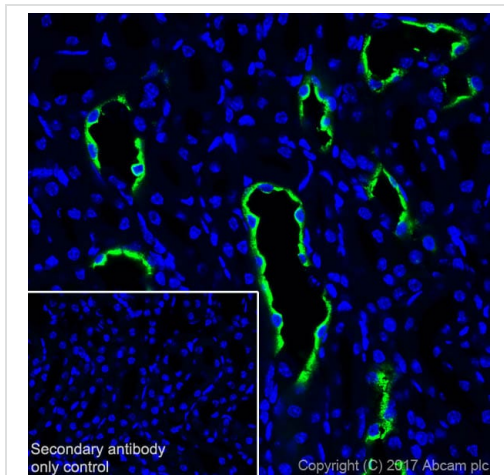


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aquaporin 2 antibody [EPR21080] (ab199975)

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling Aquaporin 2 with ab199975 at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Luminal surface and tubular cytoplasmic staining on collecting duct of rat kidney is observed (PMID: 15703994, PMID: 19546380). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat-mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).



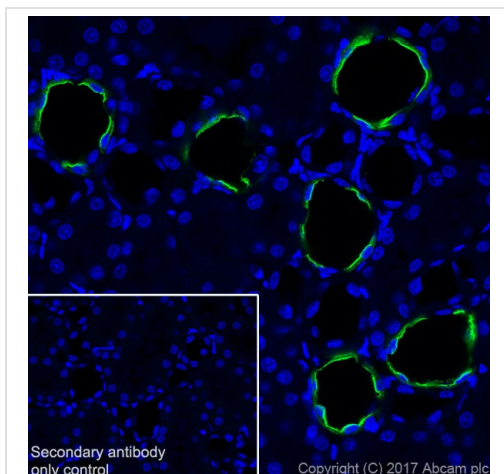
Immunohistochemistry (Frozen sections) - Anti-Aquaporin 2 antibody [EPR21080] (ab199975)

Immunohistochemical analysis of 4% paraformaldehyde-fixed mouse kidney tissue labeling Aquaporin 2 (green) with ab199975 at 1/3000 dilution followed by AlexaFluor®488 Goat anti-Rabbit secondary ([ab150077](#)) at 1/1000 dilution. Positive luminal membrane staining and tubular cytoplasmic staining on mouse kidney is observed (PMID: 9688853; 15703994; 19546380). Heat-mediated antigen retrieval was performed using sodium citrate buffer (10 mM citrate pH 6.0 + 0.05% Tween-20).

Nuclear counterstain: DAPI (blue).

Permeabilization: 0.2% Triton X-100

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is AlexaFluor®488 Goat anti-Rabbit secondary [ab150077](#) at 1/1000 dilution.



Immunohistochemistry (Frozen sections) - Anti-Aquaporin 2 antibody [EPR21080] (ab199975)

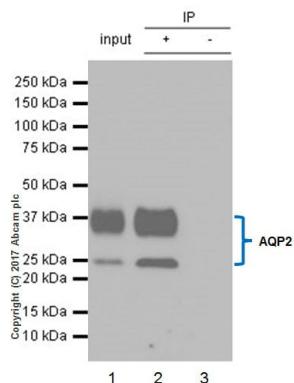
Immunohistochemical analysis of 4% paraformaldehyde-fixed rat kidney tissue labeling Aquaporin 2 (green) with ab199975 at 1/3000 dilution followed by AlexaFluor®488 Goat anti-Rabbit secondary ([ab150077](#)) at 1/1000 dilution. Positive luminal membrane staining and tubular cytoplasmic staining on rat kidney is observed (PMID: 9688853; 15703994; 19546380). Heat-mediated antigen retrieval was performed using sodium citrate buffer (10 mM citrate pH 6.0 + 0.05% Tween-20).

Nuclear counterstain: DAPI (blue).

Permeabilization: 0.2% Triton X-100

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is AlexaFluor®488 Goat anti-Rabbit secondary [ab150077](#) at 1/1000 dilution.





Immunoprecipitation - Anti-Aquaporin 2 antibody  
[EPR21080] (ab199975)

Aquaporin 2 was immunoprecipitated from 0.35 mg mouse kidney lysate with ab199975 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)), was used for detection at 1/1000 dilution.

**Lane 1:** Mouse kidney lysate 10 µg (input).

**Lane 2:** ab199975 IP in mouse kidney lysate (+).

**Lane 3:** Rabbit monoclonal IgG ([ab172730](#)) instead of ab199975 in mouse kidney lysate (-).

Blocking/dilution buffer and concentration: 5% NFDm/TBST

Exposure time: 10 seconds

We recommend customers optimize their lysis buffer and sample preparation for IP. This protein might aggregate during heating of samples.

The molecular mass is consistent with the literature (PMID 27405971; PMID 26109089).

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-Aquaporin 2 antibody [EPR21080] (ab199975)

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