Product Datasheet

Aquaporin-2 Antibody - BSA Free
NB110-74682

Unit Size: 0.1 ml

Store at 4C short term. Store at -20C long term. Avoid freeze-thaw cycles.

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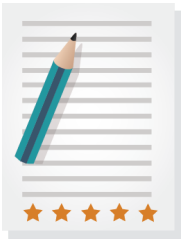
Updated 10/23/2024 v.20.1



NB110-74682

Aquaporin-2 Antibody - BSA Free

Product Information

Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS

Product Description

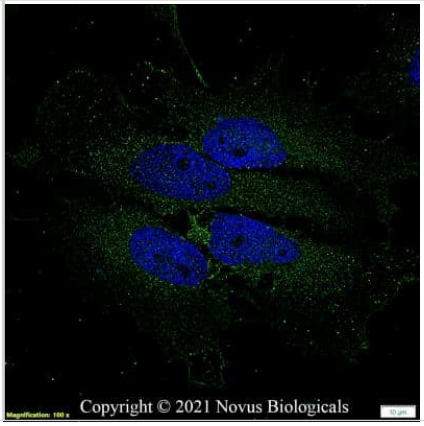
Host	Rabbit
Gene ID	359
Gene Symbol	AQP2
Species	Human, Mouse, Rat
Reactivity Notes	Use in Rat reported in scientific literature (PMID:33634832).
Immunogen	Synthetic peptide made to a C-terminus portion of rat Aquaporin-2 (within residues 200-300). [Swiss-Prot# P34080]

Product Application Details

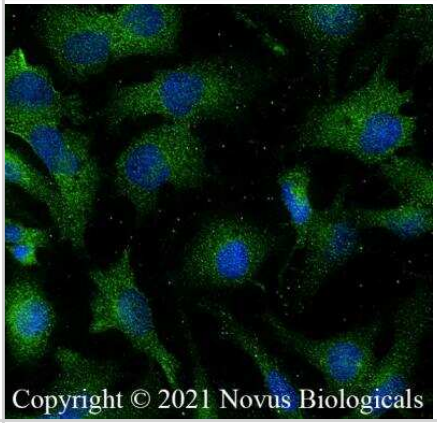
Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1 - 2 ug/ml, Immunohistochemistry 1:100-1:200, Immunocytochemistry/ Immunofluorescence 1 ug/ml, Immunohistochemistry-Paraffin 1:100-1:200, Immunohistochemistry-Frozen reported in scientific literature
Application Notes	Bands can be seen ~28 kDa for the non-glycosylated form and ~37 kDa for the glycosylated form in Western Blot.

Images

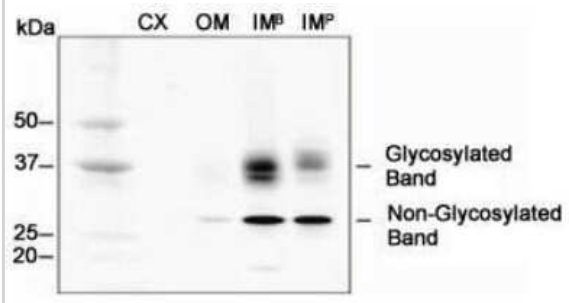
Immunocytochemistry/Immunofluorescence: Aquaporin-2 Antibody [NB110-74682] - HeLa cells were fixed in 4% paraformaldehyde for 10 minutes and permeabilized in 0.05% Triton X-100 in PBS for 5 minutes. The cells were incubated with anti-Aquaporin-2 Antibody NB110-74682 at 1 ug/ml overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:1000 dilution for 60 minutes. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 100X objective and digitally deconvolved.



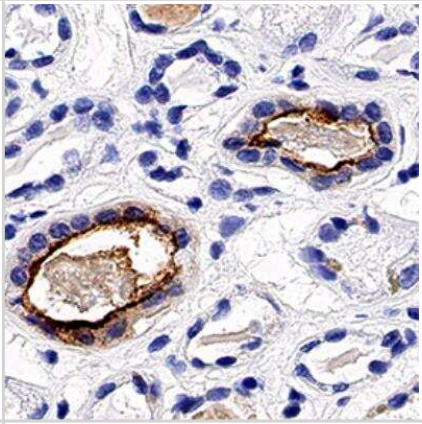
Immunocytochemistry/Immunofluorescence: Aquaporin-2 Antibody [NB110-74682] - HepG2 cells were fixed in 4% paraformaldehyde for 10 minutes and permeabilized in 0.05% Triton X-100 in PBS for 5 minutes. The cells were incubated with anti-Aquaporin-2 Antibody NB110-74682 at 1 ug/ml overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:1000 dilution for 60 minutes. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.



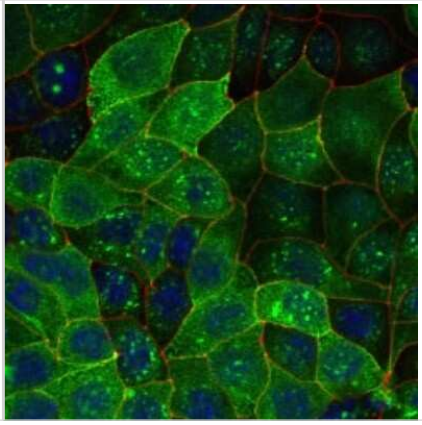
Western Blot: Aquaporin-2 Antibody [NB110-74682] - Detection of Aquaporin 2 in rat kidney extracts. Cortex (CX), Outer Medulla (OM), Inner Medulla Base (IMB), Inner Medulla Papilla (IMP).



Immunohistochemistry-Paraffin: Aquaporin-2 Antibody [NB110-74682] - Analysis of FFPE human kidney using 1:100 conc. of Aquaporin-2 antibody on a Bond Rx autostainer (Leica Biosystems). The assay involved 20 minutes of heat induced antigen retrieval (HIER) using 10mM sodium citrate buffer (pH 6.0) and endogenous peroxidase quenching with peroxide block. The sections were incubated with primary antibody for 30 minutes and Bond Polymer Refine Detection (Leica Biosystems) with DAB was used for signal development followed by counterstaining with hematoxylin. Whole slide scanning and capturing of representative images was performed using Aperio AT2 (Leica Biosystems). Lumenal staining of Aquaporin-2 in scattered tubules was observed. Staining was performed by Histowiz.



Immunocytochemistry/Immunofluorescence: Aquaporin-2 Antibody [NB110-74682] - Staining of mpkCCD cell line



Publications

Feng S, Fu Y, Lai H et al. Profiling the Long RNA Transcriptome and Cell Origins of Urinary Extracellular Vesicles in Diabetic Nephropathy SSRN 2023-10-10 (Immunocytochemistry/ Immunofluorescence, Human)

Micha?ek K, Oberska P, Murawski M et al. Kidney morphology and renal expression of aquaporins 2, 3 and 4 during cerulein - Induced chronic pancreatitis in pigs Advances in medical sciences 2023-09-12 [PMID: 37708639] (IHC-Fr, WB, Porcine)

Wypych A, Dunis?awska A, Grabowska M et al. Effects of three-month feeding high-fat diets with differentfatty acid composition on kidney histology and expressionof genes related to cellular stress and water-electrolytehomeostasis in mice Journal of Animal and Feed Sciences 2023-06-22 (Immunohistochemistry-Paraffin, Mouse)

El-Hady E, Behairy A, Goda N et al. Comparative physiological, morphological, histological, and AQP2 immunohistochemical analysis of the Arabian camels (Camelus dromedarius) and oxen kidney: Effects of adaptation to arid environments Frontiers in Animal Science 2023-03-27 (IHC, Bovine, Camel)

Breiderhoff T, Himmerkus N, Meoli L et al. Claudin-10a Deficiency Shifts Proximal Tubular Cl- Permeability to Cation Selectivity via Claudin-2 Redistribution Journal of the American Society of Nephrology : JASN 2022-01-14 [PMID: 35031570]

Dixon EE, Wu H, Muto Y et al. Spatially Resolved Transcriptomic Analysis of Acute Kidney Injury in a Female Murine Model Journal of the American Society of Nephrology : JASN 2021-12-01 [PMID: 34853151] (IHC-Fr, Mouse)

Grabowska M, Michalek K, Kedzierska-Kapuza K et al. The long-term effects of rapamycin-based immunosuppressive protocols on the expression of renal aquaporins 1, 2, 3 and 4 water channels in rats Histology and histopathology 2021-02-26 [PMID: 33634832] (IHC-P, Rat)

Uchimura K, Wu H, Yoshimura Y, Humphreys BD Human Pluripotent Stem Cell-Derived Kidney Organoids with Improved Collecting Duct Maturation and Injury Modeling Cell reports 2020-12-15 [PMID: 33326782]

Li B, Zhu C, Dong L et al. ADAM10 mediates ectopic proximal tubule development and renal fibrosis through Notch signalling J. Pathol. 2020-07-27 [PMID: 32715474] (IHC-P, Human)

Bezerra Duarte D, Cavalcante Meneses G, Bandeira Lima D et al. Aquaporin-2 and NKCC2 expression pattern in patients with hepatosplenic schistosomiasis Trop. Med. Int. Health 2020-07-06 [PMID: 32632995]

Nordstrom CK, Danckwardt-Lilliestrom N, Liu W, Rask-Andersen H Reversed polarizationof Na/K-ATPase-a sign of inverted transport in the human endolymphatic sac: a super-resolution structured illumination microscopy (SR-SIM) study Cell Tissue Res. 2019-11-12 [PMID: 31713726]

Pollow DP Jr, Romero-Aleshire MJ, Sanchez JN et al. ANG II-induced hypertension in the VCD mouse model of menopause is prevented by estrogen replacement during perimenopause Am J Physiol Regul Integr Comp Physiol. 2015-12-14 [PMID: 26491098] (WB, Mouse)

More publications at http://www.novusbio.com/NB110-74682

Procedures

Western Blot Protocol for Aquaporin-2 Antibody (NB110-74682)
Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 10-25 ug of total protein per lane.
2. Transfer proteins to PVDF membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain the membrane with Ponceau S (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot TBS -0.05% Tween 20 (TBST).
5. Block the membrane in 5% Non-fat milk in TBST (blocking buffer) for at least 1 hour.
6. Wash the membrane in TBST three times for 10 minutes each.
7. Dilute primary antibody in 2% Non-fat milk in TBST and incubate overnight at 4C with gentle rocking.
8. Wash the membrane in TBST three times for 10 minutes each.
9. Incubate the membrane in diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturer's instructions) for 1 hour at room temperature.
10. Wash the blot in TBST three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturer's instructions.

Immunocytochemistry/Immunofluorescence Protocol for Aquaporin-2 Antibody (NB110-74682)
Immunocytochemistry Protocol

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and wash the cells briefly in PBS. Add 10% formalin to the dish and fix at room temperature for 10 minutes.
2. Remove the formalin and wash the cells in PBS.
3. Permeablize the cells with 0.1% Triton X100 or other suitable detergent for 10 min.
4. Remove the permeablization buffer and wash three times for 10 minutes each in PBS. Be sure to not let the specimen dry out.
5. To block nonspecific antibody binding, incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
6. Add primary antibody at appropriate dilution and incubate overnight at 4C.
7. Remove primary antibody and replace with PBS. Wash three times for 10 minutes each.
8. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
9. Remove secondary antibody and replace with PBS. Wash three times for 10 minutes each.
10. Counter stain DNA with DAPi if required.

Immunohistochemistry-Paraffin Protocol for Aquaporin-2 Antibody (NB110-74682)
Immunohistochemistry-Paraffin Embedded Sections

Antigen Unmasking:
Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes (keep slides in the sodium citrate buffer at all times).

Staining:
1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in PBS for 5 minutes.
3. Block each section with 100-400 ul blocking solution (1% BSA in PBS) for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4 C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul HRP polymer conjugated secondary antibody. Incubate 30 minutes at room temperature.
7. Wash sections three times in wash buffer for 5 minutes each.
8. Add 100-400 ul DAB substrate to each section and monitor staining closely.
9. As soon as the sections develop, immerse slides in deionized water.
10. Counterstain sections in hematoxylin.
11. Wash sections in deionized water two times for 5 minutes each.
12. Dehydrate sections.
13. Mount coverslips.

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Products Related to NB110-74682

HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NB110-74682F	Aquaporin-2 Antibody [FITC]

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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