Product Datasheet

Aquaporin 1/AQP1 Antibody (1/A5F6) - BSA Free
NB600-749

Unit Size: 0.05 mg

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

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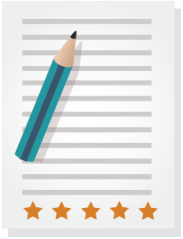
Updated 3/26/2025 v.20.1



NB600-749

Aquaporin 1/AQP1 Antibody (1/A5F6) - BSA Free

Product Information

Unit Size	0.05 mg
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	1/A5F6
Preservative	0.1% Sodium Azide
Isotype	IgG1
Purity	Protein G purified
Buffer	PBS, 1% Bovine Serum Albumin

Product Description

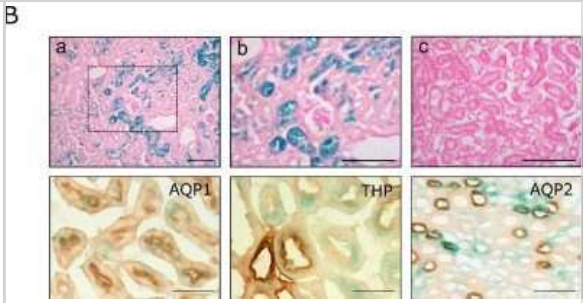
Host	Mouse
Gene ID	358
Gene Symbol	AQP1
Species	Human
Reactivity Notes	Predicted cross-reactivities: Rat, Rabbit, Mouse Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Additional Mouse on Mouse blocking steps may be required for IHC and ICC experiments. Please contact Technical Support for more information.
Specificity/Sensitivity	Antibody recognises an epitope within the cytoplasmic domain of the water-specific channel aquaporin 1.
Immunogen	Synthetic peptide corresponding to amino acids 249-269 of aquaporin 1

Product Application Details

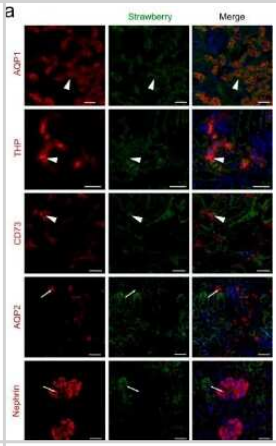
Applications	Western Blot, ELISA, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:1000-1:5000, ELISA 1:1000-1:20000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 1:10-1:500, Immunohistochemistry-Paraffin 1:500-1:1000, Immunohistochemistry-Frozen 1:500-1:1000
Application Notes	ELISA: Use at a dilution of 1/1000. IHC-P: Use at a dilution of 1/500. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.IHC-Fr: Use at a dilution of 1/500. IP: Use at a dilution of 1/1000. WB: Use at a dilution of 1/1000. Predicted molecular weight: 32.3 kDa. Immunofluorescence staining reported successful by customer review.

Images

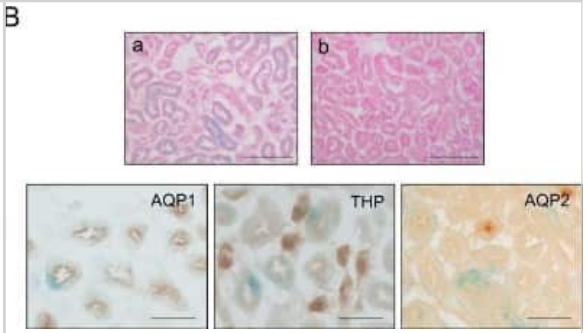
Immunohistochemistry: Aquaporin 1/AQP1 Antibody (1/A5F6) [NB600-749] - Pax8-CreERT2 mediated beta-galactosidase expression. beta-galactosidase positivity was exclusively found in the tubular epithelium of the kidney of tamoxifen treated mice, with no staining observed in glomeruli or bloods vessels (a, framed area is shown enlarged in b). Kidneys from vehicle treated mice were negative (c). Co-localisation studies revealed X-gal expression within tubules of all renal tubular compartment (proximal tubules-AQP1, distal tubules-THP and collecting ducts-AQP2). Scale bars, 100um. Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0148055), licensed under a CC-BY license.



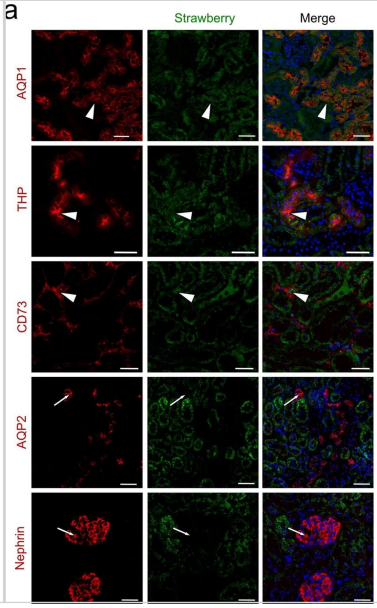
Immunohistochemistry: Aquaporin 1/AQP1 Antibody (1/A5F6) [NB600-749] - Intraparenchymal delivery of lentiviral vectors preferentially infects epithelial cells of both kidneys and urinary bladder. Confocal images of Strawberry expression in renal sections of ELS infected kidneys 60 days post injection. Sections were stained with the indicated antibodies and merged images with DAPI (blue) are presented. Preferential transduction was observed in proximal (AQP1) and distal (THP) renal tubular epithelial cells and renal fibroblasts (CD73) (white arrowheads). Strawberry was not localized to collecting ducts (AQP2) or podocytes (Nephrin) (white arrows). Scale bars, 50 um. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/doifinder/10.1038/srep11061), licensed under a CC-BY license.



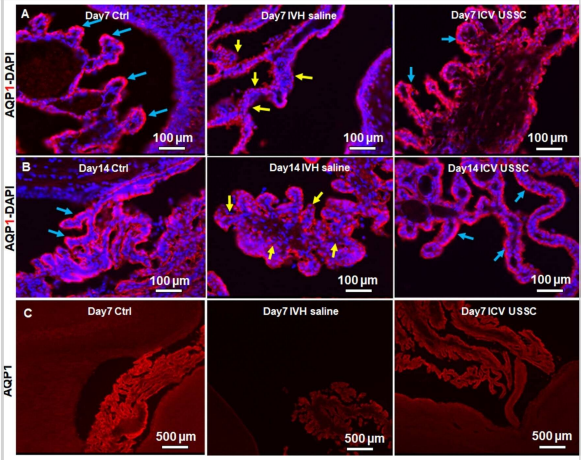
Immunohistochemistry: Aquaporin 1/AQP1 Antibody (1/A5F6) [NB600-749] - Slc22a6-CreERT2 mediated beta-galactosidase expression. beta-galactosidase positivity was exclusively found in the tubular epithelium of the kidney of tamoxifen treated mice (a); kidneys from vehicle treated mice were negative (b). Co-localisation studies revealed specific X-gal expression within proximal tubular epithelium (AQP1) with no expression detected in distal tubules (THP) or collecting ducts (AQP2). Scale bars, 100um. Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0148055), licensed under a CC-BY license.



Immunocytochemistry/ Immunofluorescence: Aquaporin 1/AQP1 Antibody (1/A5F6) [NB600-749] - Intraparenchymal delivery of lentiviral vectors preferentially infects epithelial cells of both kidneys & urinary bladder.(a) Confocal images of Strawberry expression in renal sections of ELS infected kidneys 60 days post injection. Sections were stained with the indicated antibodies & merged images with DAPI (blue) are presented. Preferential transduction was observed in proximal (AQP1) & distal (THP) renal tubular epithelial cells & renal fibroblasts (CD73) (white arrowheads). Strawberry was not localised to collecting ducts (AQP2) or podocytes (Nephrin) (white arrows). Scale bars, 50 µm. (b) Confocal images of Strawberry expression in the liver, spleen, lung, urinary bladder & left & right kidney of ELS infected animals 60 days post left intrarenal injection (top panels) & uninjected control animals (bottom panels). Sections were stained with an antibody against Strawberry (green) & merged images with DAPI (blue) are presented. Scale bars, 50 µm. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/26046460), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: Aquaporin 1/AQP1 Antibody (1/A5F6) [NB600-749] - USSC administration recovered aquaporin1 (AQP1) expression in the choroid plexus after PHH. (A) Representative immunofluorescence image of cryosections labeled with AQP1 specific antibody (arrows showing choroid epithelium immunoreactivity) on postnatal days 7. Strong AQP1 immunoreactivity in the control (blue arrows), reduced signal (yellow arrows) in IVH followed by recovered expression (blue arrows), & images from left to right respectively at postnatal day 7. CPE (Choroid plexus epithelial cells). Images were taken at 20× objective; blue = DAPI stain, 20 µm sections. Scale bar 100 µm. (B) Strong AQP1 immunoreactivity in the control (blue arrows), reduced signal (yellow arrows) in IVH followed by recovered expression (blue arrows), & the images from left to right respectively at day 14. Images were taken at 20× objective; blue = DAPI stain, 20 µm sections. Scale bar 100 µm. (C) Representative immunofluorescence image of cryosections labeled with aquaporin1. As seen in the high power image (panel-B above), the strong AQP1 immunoreactivity is evident over the entire choroid plexus in the control, reduced signal in IVH followed by recovered strong AQP1 expression observed in images from left to right respectively at day 14. Images were taken at 4× objective; 20 µm sections. The scale bar is 500 µm. Fluorescence images were taken using “Nikon Eclipse 90i microscope” (Nikon Instruments, Japan). Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/33897371), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Ziegler WH, L□diger S, Hassan F et al. Primary URECs: a source to better understand the pathology of renal tubular epithelia in pediatric hereditary cystic kidney diseases Orphanet Journal of Rare Diseases 2022-12-01 [PMID: 35264234]

Fox JC, Hahnenstein ST, Hassan F, Grund A et Al. Defects of renal tubular homeostasis and cystogenesis in the Pkhd1 knockout iScience 2024-03-29 [PMID: 38550996]

Feng Hu, Yun Yu, Feng Lu, Xiaoshu Cheng Knockdown of transient receptor potential melastatin 2 reduces renal fibrosis and inflammation by blocking transforming growth factor-β1-activated JNK1 activation in diabetic mice Aging (Albany NY) 2021-11-30 [PMID: 34845114]

Rossbach B, Hariharan K, Mah N et al. Human iPSC-Derived Renal Cells Change Their Immunogenic Properties during Maturation: Implications for Regenerative Therapies Cells 2022-04-13 [PMID: 35456007] (ICC/IF, Human)

Lim S, Kim YJ, Park S Et al. mTORC1-induced retinal progenitor cell overproliferation leads to accelerated mitotic aging and degeneration of descendent MUller glia eLife 2021-10-22 [PMID: 34677125] (IF/IHC, Mouse)

Purohit D, Finkel DA, Malfa A et al. Human Cord Blood Derived Unrestricted Somatic Stem Cells Restore Aquaporin Channel Expression, Reduce Inflammation and Inhibit the Development of Hydrocephalus After Experimentally Induced Perinatal Intraventricular Hemorrhage Frontiers in cellular neuroscience 2021-04-09 [PMID: 33897371] (IF/IHC, Rabbit)

Gong Y, He X et al. SCF/SCFR signaling plays an important role in the early morphogenesis and neurogenesis of human embryonic neural retina. Development 2019-10-17 [PMID: 31548215] (IF/IHC, Human)

Moon K H, Kim H T et al. Differential Expression of NF2 in Neuroepithelial Compartments Is Necessary for Mammalian Eye Development. Dev Cell 2018-08-01 [PMID: 29249622] (IF/IHC, Mouse)

Zheng C, Huang L et al. Inhibition of STAT3 in tubular epithelial cells prevents kidney fibrosis and nephropathy in STZ-induced diabetic mice. Cell Death Dis 2019-07-11 [PMID: 31699972] (IF/IHC, Mouse)

Espana-Agusti J, Zou X, Wong K et al. Generation and Characterisation of a Pax8-CreERT2 Transgenic Line and a Slc22a6-CreERT2 Knock-In Line for Inducible and Specific Genetic Manipulation of Renal Tubular Epithelial Cells. PLoS One 2016-02-11 [PMID: 26866916]

Espana-Agusti J, Tuveson DA, Adams DJ, Matakidou A. A minimally invasive, lentiviral based method for the rapid and sustained genetic manipulation of renal tubules. Sci Rep 2015-01-01 [PMID: 26046460] (IF/IHC, Mouse)

Francone, VP et al. Signaling from the secretory granule to the nucleus: Uhmk1 and PAM. 2010-01-01 [PMID: 20573687]

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