

## Anti-Podocin NPHS2 Antibody Picoband®

Catalog Number: PA1322-1

### About NPHS2

Podocin (PDCN) is a protein which lines the podocytes and assists in maintaining the barrier at the glomerular basement membrane. NPHS2 is a causative gene for Familial idiopathic nephrotic syndromes, which represents a heterogeneous group of kidney disorders, and include autosomal recessive steroid-resistant nephrotic syndrome, which is characterized by early childhood onset of proteinuria, rapid progression to end-stage renal disease and focal segmental glomerulosclerosis. By positional cloning, NPHS2 was mapped to 1q25-31. It is almost exclusively expressed in the podocytes of fetal and mature kidney glomeruli, and encodes a new integral membrane protein, podocin, belonging to the stomatin protein family. Ten different NPHS2 mutations were found, comprising nonsense, frameshift and missense mutations, to segregate with the disease, demonstrating a crucial role for podocin in the function of the glomerular filtration barrier.

### Overview

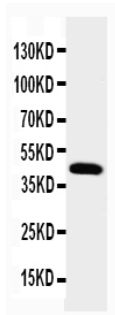
Product Name	Anti-Podocin NPHS2 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Podocin NPHS2 Antibody catalog # PA1322-1. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9mg NaCl, 0.2mg Na <sub>2</sub> HPO <sub>4</sub> , 0.05mg Thimerosal, 0.05mg NaN <sub>3</sub> . *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q9NP85

### Technical Details

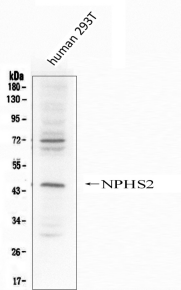
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human NPHS2, identical to the related mouse sequence, and different from the related rat sequence by one amino acid.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western

	blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and IHC(F).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Rat, Human, Mouse Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Rat, Human, Mouse Western blot, 0.1-0.5ug/ml, Rat, Human, Mouse

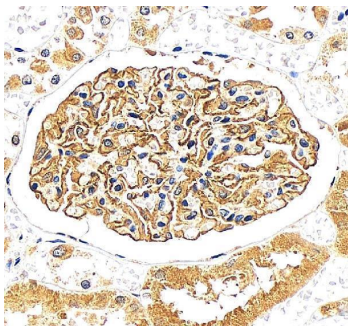
## Anti-Podocin NPHS2 Antibody Picoband® (PA1322-1) Images



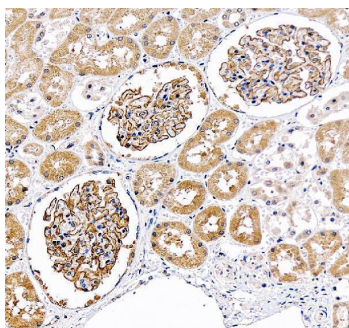
Western blot analysis of NPHS2 using anti-NPHS2 antibody (PA1322-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat kidney tissue lysate. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NPHS2 antigen affinity purified polyclonal antibody (Catalog # PA1322-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for NPHS2 at approximately 45KD. The expected band size for NPHS2 is at 42KD.



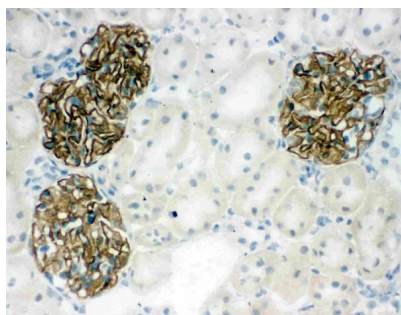
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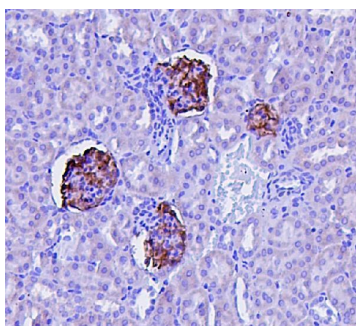
IHC analysis of NPHS2 using anti-NPHS2 antibody (PA1322-1). NPHS2 was detected in a paraffin-embedded section of human kidney tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NPHS2 Antibody (PA1322-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



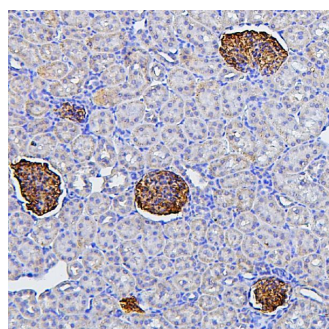
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IHC analysis of NPHS2 using anti-NPHS2 antibody (PA1322-1). NPHS2 was detected in frozen section of rat kidney tissues. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-NPHS2 Antibody (PA1322-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

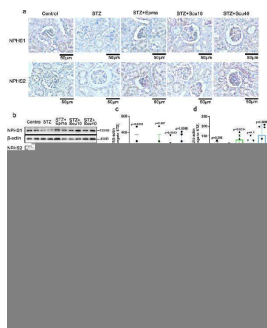


IHC analysis of NPHS2 using anti-NPHS2 antibody (PA1322-1). NPHS2 was detected in paraffin-embedded section of mouse kidney tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-NPHS2 Antibody (PA1322-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of NPHS2 using anti-NPHS2 antibody (PA1322-1). NPHS2 was detected in paraffin-embedded section of rat kidney tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-NPHS2 Antibody (PA1322-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

Scutellarin Restored Podocyte Injury of the DN Mice. a Representative images of immunohistochemistry for NPHS1 and NPHS2 of the mice treated with vehicle, scutellarin or empagliflozin ( $\times 200$ ; scale bar = 50  $\mu\text{m}$ ). b Representative images of Western-blotting for NPHS1, NPHS2. c Quantitative plot of the expression of NPHS1 of the mice. d



Quantitafication of NPHS1 expression of the mice. e Representative images of Western-blotting for beta-catenin, Axin2, snail and DKK1 of the mice. f - i Quantifications of the protein levels for beta-catenin, Axin2, snail and DKK1 from E. All data are presented as the mean  $\pm$  S.D.; n = 4-6 for each group, "n" stands for the number of animals; p vs. the model group (STZ) Index in PubMed under a CC BY license. PMID: 38656633

## 8 Publications Citing This Product

1. PubMed ID: 31301369, Qiu Y,Zhou J,Zhang H,Zhou H,Tang H,Lei C,Ye C,You C,Chen Y,Wang Y,Xiong J,Su H,Yao G,Zhang C.Rhodojaponin II attenuates kidney injury by regulating TGF-beta1/Smad pathway in mice with adriamycin nephropathy.J Ethnopharmacol.2019 Oct 28;243:112078.doi:10.1016/j.jep.2019.112078.Epub 2019 Jul 10.PMID: 31301369.
2. PubMed ID: 33537831, Zhang X,Zhang L,Chen Z,Li S,Che B, Wang N,Chen J,Xu C,Wei C.Exogenous spermine attenuates diabetic kidney injury in rats by inhibiting AMPK/mTOR signaling pathway.Int J Mol Med.2021 Mar;47(3):27.doi:10.3892/ijmm.2021.4860.Epub 2021 Feb 4.PMID:33537831.
3. PubMed ID: 32307498, Qi MY,Wang XT,Xu HL,Yang ZL,Cheng Y,Zhou B.Protective effect of ferulic acid on STZ-induced diabetic nephropathy in rats.Food Funct.2020 Apr 1;11(4):3706-3718.doi:10.1039/c9fo02398d.Epub 2020 Apr 20. PMID:32307498.

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Anti-Podocin NPHS2 Antibody

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