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# Nephrin Antibody

Catalog # ASC10103

## Product Information

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| **Application** | WB, IF, E, IHC-P |
| **Primary Accession** | O60500 |
| **Other Accession** | NP_004637, 4758822 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 134742 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | Nephrin antibody can be used for detection of Nephrin by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 1 g/mL. For immunofluorescence start at 10 g/mL. |

## Additional Information

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| **Gene ID** | 4868 |
| **Other Names** | Nephrin Antibody: CNF, NPHN, nephrin, Nephrin, Renal glomerulus-specific cell adhesion receptor, nephrosis 1, congenital, Finnish type (nephrin) |
| **Target/Specificity** | NPHS1; |
| **Reconstitution & Storage** | Nephrin antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures. |
| **Precautions** | Nephrin Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | NPHS1 |
| **Synonyms** | NPHN |
| **Function** | Seems to play a role in the development or function of the kidney glomerular filtration barrier. Regulates glomerular vascular permeability. May anchor the podocyte slit diaphragm to the actin cytoskeleton. Plays a role in skeletal muscle formation through regulation of myoblast fusion (By similarity). |
| **Cellular Location** | Cell membrane; Single-pass type I membrane protein. Note=Predominantly |

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| | located at podocyte slit diaphragm between podocyte foot processes. Also associated with podocyte apical plasma membrane. |
| **Tissue Location** | Specifically expressed in podocytes of kidney glomeruli |

## Background

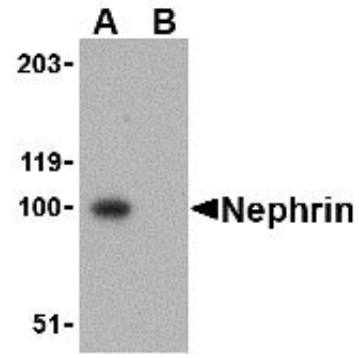
Nephrin Antibody: Nephrin is strongly expressed in renal glomeruli and is a member of the immunoglobulin family of cell adhesion molecules. Mutations in the Nephrin gene result in congenital nephrotic syndrome, an autosomal-recessive disorder characterized by massive proteinuria in utero and nephrosis at birth. Renal glomeruli allow normal kidneys to filter plasma so that it is very pure. Nephrin is expressed in the podocyte slit-diaphragm of the renal glomeruli in a manner that suggests that Nephrin molecules homodimerize in an anti-parallel fashion similar to cadherin interactions in adherens junctions. Thus, Nephrin may constitute the entire extracellular structure of the slit-diaphragm.

## References

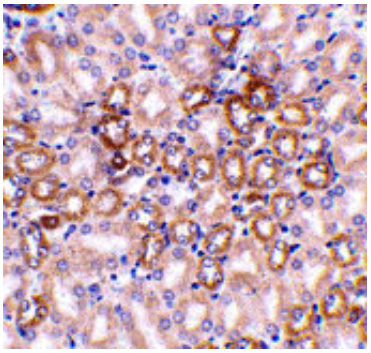
Kestila M, Lenkkeri U, Mannikko M, et al. Positionally cloned gene for a novel glomerular protein - Nephrin - is mutated in congenital nephrotic syndrome. Mol. Cell 1998; 1:575-582.
Tryggvason K. Unraveling the mechanisms of glomerular ultrafiltration: nephrin, a key component of the slit diaphragm. J. Am. Soc. Nephrol. 1999; 10:2440-5.
Tryggvason K and Wartiovaara J. Molecular basis of glomerular permselectivity. Curr, Opin. Nephrol. Hypertens. 2001; 10:543-9.

(07-01D)

## Images

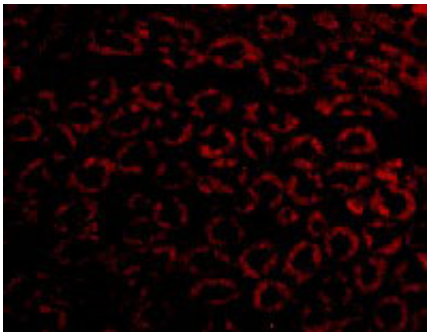



Western blot analysis of Nephrin in mouse kidney tissue lysate with Nephrin antibody at 1 µg/mL in the (A) absence and (B) presence of blocking peptide.



Immunohistochemistry of Nephrin in mouse kidney tissue with Nephrin antibody at 1 µg/mL.

Immunofluorescence of Nephrin in Mouse Kidney cells with Nephrin antibody at 10 µg/mL.



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