10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Nephrin Antibody

Catalog # ASC10103

Product Information

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

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

Name	NPHS1 (HGNC:7908)
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

	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

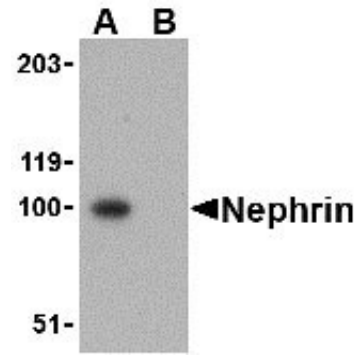
Nephrin Antibody: Nephrin is strongly expressed in renal glomeruli and is a member of the immunoglobulin family of cell adhesion molecules. Mutations in the Nephrin gene result in congenital nephrotic syndrome, an autosomal-recessive disorder characterized by massive proteinuria in utero and nephrosis 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

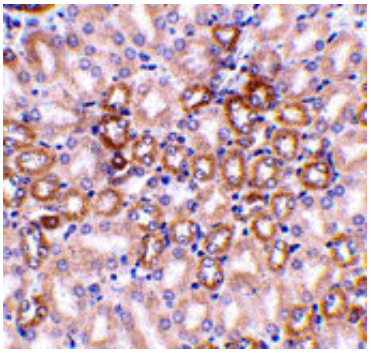
Kestila M, Lenkkeri U, Mannikko M, et al. Positionally cloned gene for a novel glomerular protein - Nephrin - is mutated in congenital nephrotic syndrome. Mol. Cell 1998; 1:575-582.
Tryggvason K. Unraveling the mechanisms of glomerular ultrafiltration: nephrin, a key component of the slit diaphragm. 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

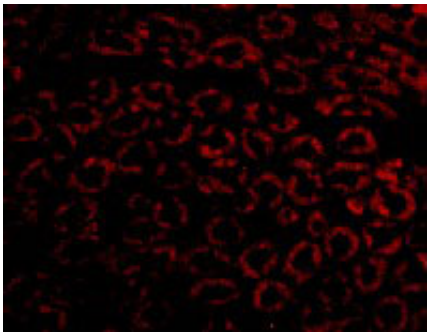


Western blot analysis of Nephrin in mouse kidney tissue lysate with Nephrin antibody at 1 µg/mL in the (A) absence and (B) presence of blocking peptide.



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.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.