

nephrin (N-20): sc-19000

BACKGROUND

Nephrin is a member of the immunoglobulin family of cell adhesion molecules that localizes to opposing sites of the secondary foot processes formed by podocytes, a specialized epithelial cell that ensures size- and charge-selective ultrafiltration. The human nephrin gene maps to chromosome 19q13.12 and encodes a 1,241 amino acid protein that contains a transmembrane domain, 8 Ig-like modules, and one fibronectin III-like module. Nephrin is expressed in embryonic and adult kidneys and localizes to glomerular podocytes and the glomerular slit diaphragm. Nephrin stimulates mitogen-activated protein kinases and is enhanced by podocin, which binds to the cytoplasmic tail of nephrin. A293 cells treated with Phorbol-12-myristate-13-acetate can upregulate nephrin, suggesting that protein kinase C is part of an intracellular signalling system, which regulates nephrin.

CHROMOSOMAL LOCATION

Genetic locus: NPHS1 (human) mapping to 19q13.12; Nphs1 (mouse) mapping to 7 B1.

SOURCE

nephrin (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of nephrin of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19000 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

nephrin (N-20) is recommended for detection of nephrin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

nephrin (N-20) is also recommended for detection of nephrin in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for nephrin siRNA (h): sc-36030, nephrin siRNA (m): sc-36031, nephrin shRNA Plasmid (h): sc-36030-SH, nephrin shRNA Plasmid (m): sc-36031-SH, nephrin shRNA (h) Lentiviral Particles: sc-36030-V and nephrin shRNA (m) Lentiviral Particles: sc-36031-V.

Molecular Weight of nephrin: 185 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or NRK whole cell lysate: sc-364197.

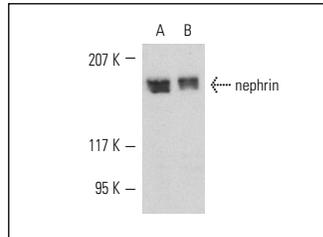
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



nephrin (N-20): sc-19000. Western blot analysis of nephrin expression in NRK (A) and KNRK (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Wagner, N., et al. 2004. The major podocyte protein nephrin is transcriptionally activated by the Wilms' tumor suppressor WT1. *J. Am. Soc. Nephrol.* 15: 3044-3051.
- Knight, S.F., et al. 2010. Simvastatin and tempol protect against endothelial dysfunction and renal injury in a model of obesity and hypertension. *Am. J. Physiol. Renal Physiol.* 298: F86-F94.
- Saito, Y., et al. 2010. Suppression of nephrin expression by TNF-α via interfering with the cAMP-retinoic acid receptor pathway. *Am. J. Physiol. Renal Physiol.* 298: F1436-F1444.
- Hill, G.S., et al. 2011. Focal segmental glomerulosclerosis plays a major role in the progression of IgA nephropathy. I. Immunohistochemical studies. *Kidney Int.* 79: 635-642.
- Zhou, Y., et al. 2011. Peroxisome proliferator-activated receptor-α is renoprotective in doxorubicin-induced glomerular injury. *Kidney Int.* 79: 1302-1311.
- Dai, H.Y., et al. 2011. Effects of angiotensin receptor blocker on phenotypic alterations of podocytes in early diabetic nephropathy. *Am. J. Med. Sci.* 341: 207-214.
- Saleh, M.A., et al. 2011. Endothelin receptor A-specific stimulation of glomerular inflammation and injury in a streptozotocin-induced rat model of diabetes. *Diabetologia* 54: 979-988.
- Kato, T., et al. 2011. Preservations of nephrin and synaptopodin by recombinant hepatocyte growth factor in podocytes for the attenuations of foot process injury and albuminuria in nephritic mice. *Nephrology* 16: 310-318.


 MONOS
Satisfaction
Guaranteed

Try **nephrin (G-8): sc-376522** or **nephrin (B-12): sc-377246**, our highly recommended monoclonal alternatives to nephrin (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **nephrin (G-8): sc-376522**.