SANTA CRUZ BIOTECHNOLOGY, INC.

nephrin (C-17): sc-32529

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 up-regulate nephrin, suggesting that protein kinase C is part of an intracellular signalling system, which regulates nephrin.

REFERENCES

1. Holzman, L.B., et al. 1999. Nephrin localizes to the slit pore of the glomerular epithelial cell. Kidney Int. 56: 1481-1491.
2. Huber, T.B., et al. 2001. Interaction with podocin facilitates nephrin signaling. J. Biol. Chem. 276: 41543-41546.

CHROMOSOMAL LOCATION

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

SOURCE

nephrin (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of nephrin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32529 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

nephrin (C-17) is recommended for detection of nephrin and nephrin precursor of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (C-17) is also recommended for detection of nephrin and nephrin precursor in additional species, including bovine.

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 human kidney extract: sc-363764.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Ronconi, E., et al. 2009. Regeneration of glomerular podocytes by human renal progenitors. J. Am. Soc. Nephrol. 20: 322-332.
2. Huang, T.H., et al. 2009. Rab 23 is expressed in the glomerulus and plays a role in the development of focal segmental glomerulosclerosis. Nephrol. Dial. Transplant. 24: 743-754.
3. Cochain, C., et al. 2012. The chemokine decoy receptor D6 prevents excessive inflammation and adverse ventricular remodeling after myocardial infarction. Arterioscler. Thromb. Vasc. Biol. 32: 2206-2213.
4. Angelotti, M.L., et al. 2012. Characterization of renal progenitors committed toward tubular lineage and their regenerative potential in renal tubular injury. Stem Cells 30: 1714-1725.
5. Verouti, S.N., et al. 2012. Vitamin D receptor activators upregulate and rescue podocalyxin expression in high glucose-treated human podocytes. Nephron Exp. Nephrol. 122: 36-50.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.