

## Podocin (C-18): sc-22296

### BACKGROUND

The onset of autosomal recessive steroid-resistant nephrotic syndrome (SRN1) in humans occurs by early childhood. Characteristics of SRN1 include proteinuria, rapid progression to end-stage renal disease, and focal segmental glomerulo-sclerosis. The pathological conditions of SRN1 correlate well with mutations at the NPHS2 gene, where expression of a protein known as Podocin occurs. Abnormal or inefficient signaling through Podocin protein-dependent networks contributes to the development of podocyte dysfunction and proteinuria. The human NPHS2 gene maps to chromosome 1q25.2 and encodes a 383 amino acid protein. Podocin is an integral membrane protein that appears to fold into a hairpin-like structure with intracellular amino- and carboxy-termini. Transmembrane and cytoplasmic portions of Podocin share homology to the corresponding regions of the stomatin family proteins. Expression of high-order oligomers of Podocin in glomerular podocytes may reflect a scaffolding function that influences proper function of the glomerular filtration barrier, which is necessary for renal stability.

### REFERENCES

1. Boute, N., et al. 2000. NPHS2, encoding the glomerular protein Podocin, is mutated in autosomal recessive steroid-resistant nephrotic syndrome. *Nat. Genet.* 24: 349-354.
2. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604766. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Huber, T.B., et al. 2001. Interaction with Podocin facilitates nephrin signaling. *J. Biol. Chem.* 276: 41543-41546.
4. Caridi, G., et al. 2001. Prevalence, genetics, and clinical features of patients carrying Podocin mutations in steroid-resistant nonfamilial focal segmental glomerulosclerosis. *J. Am. Soc. Nephrol.* 12: 2742-2746.

### CHROMOSOMAL LOCATION

Genetic locus: NPHS2 (human) mapping to 1q25.2.

### SOURCE

Podocin (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Podocin 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-22296 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### 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.

### APPLICATIONS

Podocin (C-18) is recommended for detection of Podocin of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Podocin (C-18) is also recommended for detection of Podocin in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Podocin siRNA (h): sc-40859, Podocin shRNA Plasmid (h): sc-40859-SH and Podocin shRNA (h) Lentiviral Particles: sc-40859-V.

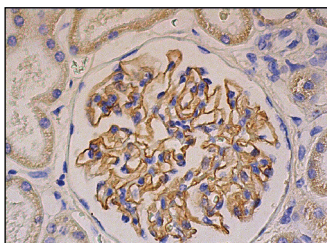
Molecular Weight of Podocin: 42 kDa.

Positive Controls: TE671 cell lysate: sc-2416 or Caki-1 cell lysate: sc-2224.

### 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

### DATA



Podocin (C-18): sc-22296. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane staining of cells in glomeruli.

### SELECT PRODUCT CITATIONS

1. Weber, S., et al. 2004. NPHS2 mutation analysis shows genetic heterogeneity of steroid-resistant nephrotic syndrome and low post-transplant recurrence. *Kidney Int.* 66: 571-579.
2. Becker-Cohen, R., et al. 2007. Recurrent nephrotic syndrome in homozygous truncating NPHS2 mutation is not due to anti-Podocin antibodies. *Am. J. Transplant.* 7: 256-260.