**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.

**REFERENCES**


**CHROMOSOMAL LOCATION**

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

**SOURCE**

Nephrin (G-8) is a mouse monoclonal antibody raised against amino acids 23-322 mapping within an extracellular domain of nephrin of human origin.

**PRODUCT**

Each vial contains 200 µg IgGκ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Nephrin (G-8) is available conjugated to agarose (sc-376522 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376522 HRP), 200 µg/ml, for WB, (HCP) and ELISA; to either phycoerythrin (sc-376522 PE), fluorescein (sc-376522 FITC), Alexa Fluor® 488 (sc-376522 AF488), Alexa Fluor® 546 (sc-376522 AF546), Alexa Fluor® 594 (sc-376522 AF594) or Alexa Fluor® 647 (sc-376522 AF647), 200 µg/ml, for WB (RGB), IF, IHC (P) and FCM; and to either Alexa Fluor® 680 (sc-376522 AF680) or Alexa Fluor® 790 (sc-376522 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Nephrin (G-8) is recommended for detection of nephrin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

**APPLICATIONS**

Positive Controls: human kidney extract: sc-363764 or rat kidney extract: sc-2394.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

Nephrin (G-8): sc-376522. Western blot analysis of nephrin expression in human kidney tissue extract.

Nephrin (G-8): sc-376522. Western blot analysis of nephrin expression in rat kidney tissue extract.

**SELECT PRODUCT CITATIONS**


**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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA