

NEPH3 (G-12): sc-515104

BACKGROUND

NEPH3 (nephrin-like protein 3), also referred to as NLG1, FILTRIN or KIRREL2 (kin of IRRE like 2), is a 708 amino acid protein that is a member of the immunoglobulin superfamily of cell adhesion molecules. NEPH3 consists of five extracellular Ig-like repeats, a transmembrane domain, several glycosylation sites and a cytoplasmic domain that has a stretch of nine conserved residues. NEPH3 localizes to the interpodocyte filtration slit in the kidney and to the Langerhans islet beta cells in the pancreas. NEPH3 is thought to be involved in the maintenance of the glomerular filtration barrier in the kidney and in pancreas development. Downregulation of NEPH3 is implicated in several proteinuric diseases. Five isoforms exist due to alternative splicing events.

REFERENCES

1. Ihalmio, P., et al. 2003. Filtrins are novel members of nephrin-like proteins. *Biochem. Biophys. Res. Commun.* 300: 364-370.
2. Sun, C., et al. 2003. KIRREL2, a novel immunoglobulin superfamily gene expressed primarily in β cells of the pancreatic islets. *Genomics* 82: 130-142.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607762. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Minaki, Y., et al. 2005. Migrating postmitotic neural precursor cells in the ventricular zone extend apical processes and form adherens junctions near the ventricle in the developing spinal cord. *Neurosci. Res.* 52: 250-262.
5. Serizawa, S., et al. 2006. A neuronal identity code for the odorant receptor-specific and activity-dependent axon sorting. *Cell* 127: 1057-1069.
6. Rinta-Valkama, J., et al. 2007. Podocyte-associated proteins FAT, α -actinin-4 and filtrins are expressed in Langerhans islets of the pancreas. *Mol. Cell. Biochem.* 294: 117-125.

CHROMOSOMAL LOCATION

Genetic locus: KIRREL2 (human) mapping to 19q13.12.

SOURCE

NEPH3 (G-12) is a mouse monoclonal antibody raised against amino acids 546-600 mapping near the C-terminus of NEPH3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NEPH3 (G-12) is available conjugated to agarose (sc-515104 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515104 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515104 PE), fluorescein (sc-515104 FITC), Alexa Fluor® 488 (sc-515104 AF488), Alexa Fluor® 546 (sc-515104 AF546), Alexa Fluor® 594 (sc-515104 AF594) or Alexa Fluor® 647 (sc-515104 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515104 AF680) or Alexa Fluor® 790 (sc-515104 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NEPH3 (G-12) is recommended for detection of NEPH3 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 NEPH3 siRNA (h): sc-75899, NEPH3 shRNA Plasmid (h): sc-75899-SH and NEPH3 shRNA (h) Lentiviral Particles: sc-75899-V.

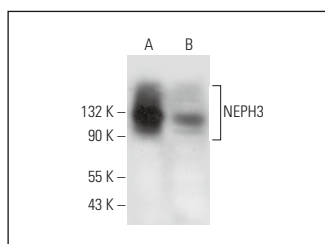
Molecular Weight of NEPH3: 107 kDa.

Positive Controls: Y79 cell lysate: sc-2240 or MIA PaCa-2 cell lysate: sc-2285.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



NEPH3 (G-12): sc-515104. Western blot analysis of NEPH3 expression in Y79 (A) and MIA PaCa-2 (B) whole cell lysates.

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 for detailed protocols and support products.