SANTA CRUZ BIOTECHNOLOGY, INC.

NEPH3 (H-55): sc-292595

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 β 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 exists due to alternative splicing events.

REFERENCES

1. Ihalmo, P., Palmén, T., Ahola, H., Valtonen, E. and Holthöfer, H. 2003. Filtrin is a novel member of nephrin-like proteins. Biochem. Biophys. Res. Commun. 300: 364-370.
2. Sun, C., Kilburn, D., Lukashin, A., Crowell, T., Gardner, H., Brundiers, R., Diefenbach, B. and Carulli, J.P. 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., Mizuhara, E., Morimoto, K., Nakatani, T., Sakamoto, Y., Inoue, Y., Satoh, K., Imai, T., Takai, Y. and Ono, Y. 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., Miyamichi, K., Takeuchi, H., Yamagishi, Y., Suzuki, M. and Sakano, H. 2006. A neuronal identity code for the odorant receptor-specific and activity-dependent axon sorting. Cell 127: 1057-1069.
6. Rinta-Valkama, J., Palmén, T., Lassila, M. and Holthöfer, H. 2007. Podocyte-associated proteins FAT, α-actinin-4 and filtrin are expressed in Langerhans islets of the pancreas. Mol. Cell. Biochem. 294: 117-125.
7. Ihalmo, P., Schmid, H., Rastaldi, M.P., Mattinzoli, D., Langham, R.G., Luimula, P., Kilpikari, R., Lassila, M., Gilbert, R.E., Kerjaschki, D., Kretzler, M. and Holthöfer, H. 2007. Expression of filtrin in human glomerular diseases. Nephrol. Dial. Transplant. 22: 1903-1909.

CHROMOSOMAL LOCATION

Genetic locus: KIRREL2 (human) mapping to 19q13.12, Kirrel2 (human) mapping to 7 B1.

SOURCE

NEPH3 (H-55) is a rabbit polyclonal antibody raised against amino acids 546-600 mapping near the C-terminus of NEPH3 of human origin.

RESEARCH USE

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

PRODUCT

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

APPLICATIONS

NEPH3 (H-55) is recommended for detection of NEPH3 of human, mouse and, to a lesser extent, rat 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).

NEPH3 (H-55) is also recommended for detection of NEPH3 in additional species, including canine and bovine.

Suitable for use as control antibody for NEPH3 siRNA (h): sc-75899, NEPH3 siRNA (m): sc-75900, NEPH3 shRNA Plasmid (h): sc-75899-SH, NEPH3 shRNA Plasmid (m): sc-75900-SH, NEPH3 shRNA (h) Lentiviral Particles: sc-75899-V and NEPH3 shRNA (m) Lentiviral Particles: sc-75900-V.

Molecular Weight of NEPH3: 107 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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