

NEPH2 (G-8): sc-514471

BACKGROUND

NEPH2 (nephrin-like protein 2), also known as KIRRE, KIRREL3 (kin of IRRE like 3) or MRD4, is a 778 amino acid single-pass type I membrane protein that belongs to the nephrin-like protein family and immunoglobulin superfamily. Expressed in both fetal and adult brain, as well as podocytes of kidney glomeruli, NEPH2 contains five Ig-like C2-type (immunoglobulin-like) domains and is thought to play a role in the hematopoietic supportive capacity of stroma cells. NEPH2 undergoes alternative splicing to produce two isoforms and contains a C-terminal cytoplasmic domain which it uses to interact with Podocin, a podocyte protein involved in ultrafiltration. Defects in the gene encoding NEPH2 are associated with mental retardation autosomal dominant type 4 (MRD4).

REFERENCES

1. Nagase, T., et al. 2001. Prediction of the coding sequences of unidentified human genes. XX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 8: 85-95.
2. Sellin, L., et al. 2003. NEPH1 defines a novel family of podocin interacting proteins. FASEB J. 17: 115-117.
3. Ueno, H., et al. 2003. A stromal cell-derived membrane protein that supports hematopoietic stem cells. Nat. Immunol. 4: 457-463.
4. Musiał, K. and Zwoliska, D. 2005. Structure and function of the glomerular filtration barrier. Pol. Merkur. Lekarski 18: 317-320.
5. Bhalla, K., et al. 2008. Alterations in CDH15 and KIRREL3 in patients with mild to severe intellectual disability. Am. J. Hum. Genet. 83: 703-713.

CHROMOSOMAL LOCATION

Genetic locus: KIRREL3 (human) mapping to 11q24.2; Kirrel3 (mouse) mapping to 9 A4.

SOURCE

NEPH2 (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 501-519 within an extracellular domain of NEPH2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NEPH2 (G-8) is available conjugated to agarose (sc-514471 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514471 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514471 PE), fluorescein (sc-514471 FITC), Alexa Fluor® 488 (sc-514471 AF488), Alexa Fluor® 546 (sc-514471 AF546), Alexa Fluor® 594 (sc-514471 AF594) or Alexa Fluor® 647 (sc-514471 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514471 AF680) or Alexa Fluor® 790 (sc-514471 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514471 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

NEPH2 (G-8) is recommended for detection of NEPH2 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 NEPH2 siRNA (h): sc-96973, NEPH2 siRNA (m): sc-149911, NEPH2 shRNA Plasmid (h): sc-96973-SH, NEPH2 shRNA Plasmid (m): sc-149911-SH, NEPH2 shRNA (h) Lentiviral Particles: sc-96973-V and NEPH2 shRNA (m) Lentiviral Particles: sc-149911-V.

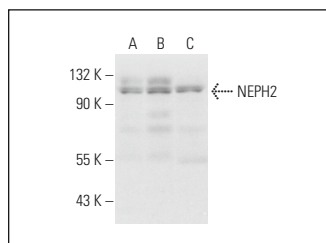
Molecular Weight of NEPH2: 100 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, K-562 whole cell lysate: sc-2203 or H4 cell lysate: sc-2408.

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



NEPH2 (G-8): sc-514471. Western blot analysis of NEPH2 expression in K-562 (A), SH-SY5Y (B) and H4 (C) 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.