SANTA CRUZ BIOTECHNOLOGY, INC.

NKHC2 (A-2): sc-390951

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Neuronal kinesin heavy chain 2 (NKHC2) is a 1,032 amino acid protein that is part of the kinesin superfamily which consists of the heavy chains of conventional kinesin. NKHC is expressed throughout the central nervous system, but is highly expressed in certain subsets of neurons. NKHC has a unique C-terminal stretch of 69 amino acids and interacts with dystrobrevin, an adaptor/scaffolding protein. This interaction may play a role in the transport and targeting of components of the dystrophin-associated protein complex to precice sites in the cell. NKHC may also be involved in the microtubule-dependent slow axonal transport of neurofilament proteins during the maturation of neuronal cells.

REFERENCES

1. Vignali, G., et al. 1997. Expression of neuronal kinesin heavy chain is developmentally regulated in the central nervous system of the rat. J. Neurochem. 69: 1840-1849.
2. Rahman, A., et al. 1999. Defective kinesin heavy chain behavior in mouse kinesin light chain mutants. J. Cell Biol. 146: 1277-1288.
3. Li, J.Y., et al. 1999. Axonal transport and distribution of immunologically distinct kinesin heavy chains in rat neurons. J. Neurosci. Res. 58: 226-241.
4. Kanai, Y., et al. 2000. KIF5C, a novel neuronal kinesin enriched in motor neurons. J. Neurosci. 20: 6374-6384.
5. Cai, Y., et al. 2001. The docking of kinesins, KIF5B and KIF5C, to Ran-binding protein 2 (RanBP2) is mediated via a novel RanBP2 domain. J. Biol. Chem. 276: 41594-41602.

CHROMOSOMAL LOCATION

Genetic locus: KIF5C (human) mapping to 2q23.1; Kif5c (mouse) mapping to 2 C1.1.

SOURCE

NKHC2 (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 409-432 within an internal region of NKHC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NKHC2 (A-2) is available conjugated to agarose (sc-390951 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390951 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390951 PE), fluorescein (sc-390951 FITC), Alexa Fluor® 488 (sc-390951 AF488), Alexa Fluor® 546 (sc-390951 AF546), Alexa Fluor® 594 (sc-390951 AF594) or Alexa Fluor® 647 (sc-390951 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390951 AF680) or Alexa Fluor® 790 (sc-390951 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390951 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NKHC2 (A-2) is recommended for detection of NKHC2 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 NKHC2 siRNA (h): sc-61203, NKHC2 siRNA (m): sc-61204, NKHC2 shRNA Plasmid (h): sc-61203-SH, NKHC2 shRNA Plasmid (m): sc-61204-SH, NKHC2 shRNA (h) Lentiviral Particles: sc-61203-V and NKHC2 shRNA (m) Lentiviral Particles: sc-61204-V.

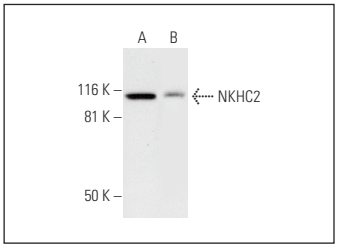
Molecular Weight of NKHC2: 115 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or human hippocampus tissue extract.

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



NKHC2 (A-2): sc-390951. Western blot analysis of NKHC2 expression in IMR-32 whole cell lysate (**A**) and human hippocampus tissue extract (**B**).

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.