SANTA CRUZ BIOTECHNOLOGY, INC.

NKHC1 (h2): 293T Lysate: sc-112832

BACKGROUND

NKHC1 (neuronal kinesin heavy chain 1), also known as KIF5A; kinesin family member 5A, NKHC; kinesin heavy chain, neuron-specific, SPG10 and spastic paraplegia 10, is a neuronal-specific component of a multi-subunit "molecular motor" complex that mediates intracellular organelle transport. Mutations in the gene encoding NKHC1 cause autosomal dominant spastic paraplegia 10. NKHC1 has a pan-neuronal distribution in the nervous system. Rat tissue extracts by immunoblot of NKHC1 can produce a doublet only in brain and sciatic nerve tissue. NKHC1 is distributed throughout the central nervous system and is enriched in subsets of neurons. Within cultured hippocampal neurons, NKHC1 is concentrated in the perinuclear region of the cell body. Kinesin superfamily proteins like NKHC1 are the molecular motors conveying cargos along microtubules.

REFERENCES

1. Niclas, J., et al. 1994. Cloning and localization of a conventional kinesin motor expressed exclusively in neurons. Neuron 12: 1059-1072.
2. Rahman, A., et al. 1999. Defective kinesin heavy chain behavior in mouse kinesin light chain mutants. J. Cell Biol. 146: 1277-1288.
3. Kanai, Y., et al. 2000. KIF5C, a novel neuronal kinesin enriched in motor neurons. J. Neurosci. 20: 6374-6384.
4. Macioce, P., et al. 2003. β-dystrobrevin interacts directly with kinesin heavy chain in brain. J. Cell Sci. 116: 4847-4856.
5. Xia, C.H., et al. 2003. Abnormal neurofilament transport caused by targeted disruption of neuronal kinesin heavy chain KIF5A. J. Cell Biol. 161: 55-66.
6. Fichera, M., et al. 2004. Evidence of kinesin heavy chain (KIF5A) involvement in pure hereditary spastic paraplegia. Neurology 63: 1108-1110.
7. Sotelo-Silveira, J.R., et al. 2004. Myosin Va and kinesin II motor proteins are concentrated in ribosomal domains (periaxoplasmic ribosomal plaques) of myelinated axons. J. Neurobiol. 60: 187-196.
8. Ceccarini, M., et al. 2005. Molecular basis of dystrobrevin interaction with kinesin heavy chain: structural determinants of their binding. J. Mol. Biol. 354: 872-882.

CHROMOSOMAL LOCATION

Genetic locus: KIF5A (human) mapping to 12q13.3.

PRODUCT

NKHC1 (h2): 293T Lysate represents a lysate of human NKHC1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

NKHC1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive NKHC1 antibodies. Recommended use: 10-20 µl per lane.

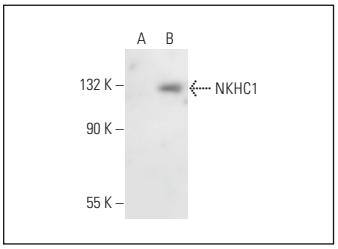
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

NKHC1 (D-3): sc-398759 is recommended as a positive control antibody for Western Blot analysis of enhanced human NKHC1 expression in NKHC1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



NKHC1 (D-3): sc-398759. Western blot analysis of NKHC1 expression in non-transfected: sc-117752 (**A**) and human NKHC1 transfected: sc-112832 (**B**) 293T whole cell lysates.

RESEARCH USE

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