SANTA CRUZ BIOTECHNOLOGY, INC.

NKHC2 siRNA (h): sc-61203

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

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4. Kanai, Y., et al. 2000. KIF5C, a novel neuronal kinesin enriched in motor neurons. J. Neurosci. 20: 6374-6384.
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CHROMOSOMAL LOCATION

Genetic locus: KIF5C (human) mapping to 2q23.1.

PRODUCT

NKHC2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NKHC2 shRNA Plasmid (h): sc-61203-SH and NKHC2 shRNA (h) Lentiviral Particles: sc-61203-V as alternate gene silencing products.

For independent verification of NKHC2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61203A, sc-61203B and sc-61203C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NKHC2 siRNA (h) is recommended for the inhibition of NKHC2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

NKHC2 (E-5): sc-374468 is recommended as a control antibody for monitoring of NKHC2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NKHC2 gene expression knockdown using RT-PCR Primer: NKHC2 (h)-PR: sc-61203-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.