

DNCL1 siRNA (h): sc-78144

BACKGROUND

Dyneins are multisubunit, high molecular weight ATPases that interact with microtubules to generate force by converting the chemical energy of ATP into the mechanical energy of movement. There are two families of Dynein motor complexes: axonemal Dynein heavy, intermediate, light and light-intermediate chains are all components of minus end-directed motors, while cytoplasmic Dyneins mainly function in intracellular transport. Belonging to the Dynein light intermediate chain family, DNCL1 (Cytoplasmic dynein 1 light intermediate chain 1) is a 523 amino acid protein that consists of at least three heavy chains, two intermediate chains and eight light chains. DNCL1 may play a role in binding Dynein heavy chain to chromosomes or membranous organelles and also may regulate Dynein enzymatic activity by associating with heavy chains of the Dynein head.

REFERENCES

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3. Bielli, A., et al. 2001. The small GTPase Rab4A interacts with the central region of cytoplasmic dynein light intermediate chain-1. *Biochem. Biophys. Res. Commun.* 281: 1141-1153.
4. Ligon, L.A., et al. 2004. A direct interaction between cytoplasmic dynein and kinesin I may coordinate motor activity. *J. Biol. Chem.* 279: 19201-19208.
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CHROMOSOMAL LOCATION

Genetic locus: DYNCL1L1 (human) mapping to 3p22.3.

PRODUCT

DNCL1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DNCL1 shRNA Plasmid (h): sc-78144-SH and DNCL1 shRNA (h) Lentiviral Particles: sc-78144-V as alternate gene silencing products.

For independent verification of DNCL1 (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-78144A, sc-78144B and sc-78144C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

DNCL1 siRNA (h) is recommended for the inhibition of DNCL1 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 μ M in 66 μ l. 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

DNCL1 (H-7): sc-514141 is recommended as a control antibody for monitoring of DNCL1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 DNCL1 gene expression knockdown using RT-PCR Primer: DNCL1 (h)-PR: sc-78144-PR (20 μ l). 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.