SANTA CRUZ BIOTECHNOLOGY, INC.

DNCLI2 siRNA (h): sc-93178

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. DNCLI2 (Dynein light intermediate chain 2, cytosolic), also known as LIC53/55 or LIC2, is a 492 amino acid member of the Dynein light intermediate chain protein family. Localized to the cytoplasm, DNCLI2 is a non-catalytic accessory component of the Dynein 1 complex that is thought to be involved in linking Dynein to cargos and adaptor proteins that regulate Dynein function. The cytoplasmic Dynein 1 complex consists of a number of non-catalytic subunits presented by intermediate chains (ICs), light intermediate chains (LICs) and light chains (LCs) and two catalytic heavy chains (HC). DNCLI2 has been found to interact directly with Dynein HC.

REFERENCES

1. Hughes, S.M., et al. 1995. Molecular analysis of a cytoplasmic dynein light intermediate chain reveals homology to a family of ATPases. J. Cell Sci. 108: 17-24.
2. Chagnon, P., et al. 2002. A missense mutation (R565W) in cirhin (FLJ14728) in North American Indian childhood cirrhosis. Am. J. Hum. Genet. 71: 1443-1449.
3. Beausoleil, S.A., et al. 2004. Large-scale characterization of HeLa cell nuclear phosphoproteins. Proc. Natl. Acad. Sci. USA 101: 12130-12135.
4. Pfister, K.K., et al. 2005. Cytoplasmic dynein nomenclature. J. Cell Biol. 171: 411-413.
5. Horgan, C.P., et al. 2010. Rab11-FIP3 binds dynein light intermediate chain 2 and its overexpression fragments the Golgi complex. Biochem. Biophys. Res. Commun. 394: 387-392.

CHROMOSOMAL LOCATION

Genetic locus: DYNC1LI2 (human) mapping to 16q22.1.

PRODUCT

DNCLI2 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 DNCLI2 shRNA Plasmid (h): sc-93178-SH and DNCLI2 shRNA (h) Lentiviral Particles: sc-93178-V as alternate gene silencing products.

For independent verification of DNCLI2 (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-93178A, sc-93178B and sc-93178C.

PROTOCOLS

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

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

DNCLI2 siRNA (h) is recommended for the inhibition of DNCLI2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DNCLI2 gene expression knockdown using RT-PCR Primer: DNCLI2 (h)-PR: sc-93178-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.