

DNAL1 siRNA (m): sc-143114

BACKGROUND

Dyneins are multi-subunit, high molecular weight ATPases that interact with microtubules to generate force by converting the chemical energy of ATP into the mechanical energy of movement. Cytoplasmic or axonemal dynein heavy, intermediate, light and light-intermediate chains are all components of minus end-directed motors. Dynein complexes transport cellular cargos toward the central region of the cell. Containing one to three non-identical heavy chains, axonemal dynein motors cause a sliding of microtubules in the axonemes of cilia and flagella in a mechanism necessary for cilia movement and cell propulsion. DNAL1 (dynein light chain 1, axonemal), also known as MGC12435 or C14orf168, is a 190 amino acid member of the dynein light chain LC1-type protein family. Containing four leucine-rich repeats, DNAL1 interacts directly with DNAH5. DNAL1 is expressed in testis and other tissues carrying motile cilia.

REFERENCES

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6. He, Y., et al. 2005. Role of cytoplasmic dynein in the axonal transport of microtubules and neurofilaments. *J. Cell. Biol.* 168: 697-703.
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CHROMOSOMAL LOCATION

Genetic locus: Dnal1 (mouse) mapping to 12 D1.

PROTOCOLS

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

PRODUCT

DNAL1 siRNA (m) is a target-specific 19-25 nt siRNA 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 DNAL1 shRNA Plasmid (m): sc-143114-SH and DNAL1 shRNA (m) Lentiviral Particles: sc-143114-V as alternate gene silencing 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 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

DNAL1 siRNA (m) is recommended for the inhibition of DNAL1 expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DNAL1 gene expression knockdown using RT-PCR Primer: DNAL1 (m)-PR: sc-143114-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.