SANTA CRUZ BIOTECHNOLOGY, INC.

DNAH1 siRNA (m): sc-143075

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The Power to Question

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. Axonemal Dynein motors contain one to three non-identical heavy chains and cause a sliding of microtubules in the axonemes of cilia and flagella in a mechanism necessary for cilia to beat and propel the cell. DNAH1 (dynein heavy chain 1, axonemal), also known as heat shock regulated protein 1 or ciliary dynein heavy chain 1, is a 4,330 amino acid protein consisting of at least two heavy chains and several intermediate and light chains. Mutations in the gene encoding DNAH1 may be a cause of primary ciliary dyskinesia, also known as Kartagener syndrome, which is characterized by chronic recurrent respiratory infections due to defective cilia action in the respiratory tract. There are three isoforms of DNAH1 that exist as a result of alternative splicing events.

REFERENCES

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4. Yagi, T. 2000. ADP-dependent microtubule translocation by flagellar inner-arm dyneins. Cell Struct. Funct. 25: 263-267.
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6. Bartoloni, L., et al. 2001. Axonemal beta heavy chain dynein DNAH9: cDNA sequence, genomic structure, and investigation of its role in primary ciliary dyskinesia. Genomics 72: 21-33.
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8. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 603332. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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CHROMOSOMAL LOCATION

Genetic locus: Dnah1 (mouse) mapping to 14 B.

PROTOCOLS

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

PRODUCT

DNAH1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DNAH1 shRNA Plasmid (m): sc-143075-SH and DNAH1 shRNA (m) Lentiviral Particles: sc-143075-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 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

DNAH1 siRNA (m) is recommended for the inhibition of DNAH1 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 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 DNAH1 gene expression knockdown using RT-PCR Primer: DNAH1 (m)-PR: sc-143075-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.