SANTA CRUZ BIOTECHNOLOGY, INC.

DNAH9 siRNA (m): sc-62221

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. Cytoplasmic or axonemal Dynein heavy, intermediate, light and light-intermediate chains are all components of minus end-directed motors; the complex transports cellular cargos towards the central region of the cell. 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. DNAH9 (Dynein, axonemal, heavy chain 9), also known as DYH9, HL20, DNEL1, Dnahc9 or DNAH17L, is a member of the Dynein heavy chain family and comprises one of the heavy chain subunits of axonemal Dynein. DNAH9 consists of an N-terminal stem which is responsible for interacting with other Dynein components and binding cargo, and four P-loops that comprise the motor domain at its C-terminus.

REFERENCES

1. Milisav, I., et al. 1996. Characterization of a novel human dynein-related gene that is specifically expressed in testis. Mamm. Genome 7: 667-672.
2. Milisav, I., et al. 1998. A potential human axonemal Dynein heavy-chain gene maps to 17q25. Mamm. Genome 9: 404-407.
3. Bartoloni, L., et al. 2001. Axonemal β heavy chain Dynein DNAH9: cDNA sequence, genomic structure, and investigation of its role in primary ciliary dyskinesia. Genomics 72: 21-33.
4. Carson, J.L., et al. 2002. Axonemal Dynein expression in human fetal tracheal epithelium. Am. J. Physiol. Lung Cell. Mol. Physiol. 282: L421-L430.
5. Asai, D.J., et al. 2004. The Dynein heavy chain family. J. Eukaryot. Microbiol. 51: 23-29.
6. Seetharam, R.N., et al. 2005. High speed sliding of axonemal microtubules produced by outer arm dynein. Cell Motil. Cytoskeleton 60: 96-103.
7. Lee, W.L., et al. 2005. The offloading model for Dynein function: differential function of motor subunits. J. Cell Biol. 168: 201-207.

CHROMOSOMAL LOCATION

Genetic locus: Dnahc9 (mouse) mapping to 11 B3.

PRODUCT

DNAH9 siRNA (m) 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 DNAH9 shRNA Plasmid (m): sc-62221-SH and DNAH9 shRNA (m) Lentiviral Particles: sc-62221-V as alternate gene silencing products.

For independent verification of DNAH9 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62221A, sc-62221B and sc-62221C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

DNAH9 siRNA (m) is recommended for the inhibition of DNAH9 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 DNAH9 gene expression knockdown using RT-PCR Primer: DNAH9 (m)-PR: sc-62221-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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