SANTA CRUZ BIOTECHNOLOGY, INC.

IFT52 siRNA (h): sc-75328

BACKGROUND

Intraflagellar transport is mediated by a variety of intraflagellar transport proteins (IFTs) that work in tandem to mediate ciliary and flagellar process assembly. Endogenous IFT proteins are most highly expressed within the inner segment, around the basal body, and within the outer segment IFT proteins are localized in discrete particles along the entire length of the axoneme. IFT proteins are divided into 2 subcomplexes, A and B, which contain at least 6 or 11 subunits, respectively. IFT-A proteins are associated with retrograde transport, whereas IFT-B proteins are thought to be involved in structure because, in their absence, cilia and flagella may be truncated, or completely absent. IFT52, also designated NGD5 or CGI-53, is a core protein of the IFT complex B and is thought to be involved in hedgehog signaling.

REFERENCES

1. Deane, J.A., et al. 2001. Localization of intraflagellar transport protein IFT52 identifies basal body transitional fibers as the docking site for IFT particles. Curr. Biol. 11: 1586-1590.
2. Baker, S.A., et al. 2003. IFT20 links kinesin II with a mammalian intraflagellar transport complex that is conserved in motile flagella and sensory cilia. J. Biol. Chem. 278: 34211-34218.
3. Tsujikawa, M. and Malicki, J. 2004. Intraflagellar transport genes are essential for differentiation and survival of vertebrate sensory neurons. Neuron 42: 703-716.
4. Liu, A., et al. 2005. Mouse intraflagellar transport proteins regulate both the activator and repressor functions of Gli transcription factors. Development 132: 3103-3111.
5. Lucker, B.F., et al. 2005. Characterization of the intraflagellar transport complex B core: direct interaction of the IFT81 and IFT74/72 subunits. J. Biol. Chem. 280: 27688-27696.
6. Absalon, S., et al. 2008. Intraflagellar transport and functional analysis of genes required for flagellum formation in trypanosomes. Mol. Biol. Cell 19: 929-944.
7. Luby-Phelps, K., et al. 2008. Spatial distribution of intraflagellar transport proteins in vertebrate photoreceptors. Vision Res. 48: 413-423.

CHROMOSOMAL LOCATION

Genetic locus: IFT52 (human) mapping to 20q13.12.

PRODUCT

IFT52 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 IFT52 shRNA Plasmid (h): sc-75328-SH and IFT52 shRNA (h) Lentiviral Particles: sc-75328-V as alternate gene silencing products.

For independent verification of IFT52 (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-75328A, sc-75328B and sc-75328C.

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

IFT52 siRNA (h) is recommended for the inhibition of IFT52 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 IFT52 gene expression knockdown using RT-PCR Primer: IFT52 (h)-PR: sc-75328-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.

PROTOCOLS

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