SANTA CRUZ BIOTECHNOLOGY, INC.

IFT80 siRNA (h): sc-77902

BACKGROUND

Intraflagellar transport is mediated by a variety of intraflagellar transport proteins (IFTs) that work in tandem to mediate ciliary and flagellar process assembly. IFT proteins are divided into two subcomplexes, A and B. 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. IFT80 (intraflagellar transport protein 80 homolog) is also known as WDR56 (WD repeat-containing protein 56) and is a 777 amino acid protein that is expressed in brain, lung, liver, kidney, testis and ovary. IFT80 is localized to the cytoplasm, basal body and ciliary/flagellar axoneme. IFT80 is a component of the IFT-B complex and has WD 40 repeats, which are thought to be important for protein-protein interactions. An amino acid deletion and two missense mutations present in the gene encoding IFT80 may be associated with Jeune syndrome, an autosomally-recessive chondrodysplasia that often leads to infant death due to severe bone constrictions of the rib cage which cause insufficiency of the respiratory system.

REFERENCES

1. Lin, B., et al. 2003. Isolation and characterization of human and mouse WDR19, a novel WD-repeat protein exhibiting androgen-regulated expression in prostate epithelium. Genomics 82: 331-342.
2. Petrícková, K., et al. 2006. The WD-40 repeat protein PkwA of *Thermomonospora curvata* is associated with rapid growth and is localized in the tips of growing hyphae. FEMS Microbiol. Lett. 258: 187-193.
3. Beales, P.L., et al. 2007. IFT80, which encodes a conserved intraflagellar transport protein, is mutated in Jeune asphyxiating thoracic dystrophy. Nat. Genet. 39: 727-729.
4. Huang, W., et al. 2008. Identification and characterization of a long isoform of human IFT80, IFT80-L. Biochem. Biophys. Res. Commun. 373: 653-658.

CHROMOSOMAL LOCATION

Genetic locus: IFT80 (human) mapping to 3q25.33.

PRODUCT

IFT80 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 IFT80 shRNA Plasmid (h): sc-77902-SH and IFT80 shRNA (h) Lentiviral Particles: sc-77902-V as alternate gene silencing products.

For independent verification of IFT80 (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-77902A, sc-77902B and sc-77902C.

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.

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

IFT80 siRNA (h) is recommended for the inhibition of IFT80 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 IFT80 gene expression knockdown using RT-PCR Primer: IFT80 (h)-PR: sc-77902-PR (20 µl, 539 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.