

IFT81 siRNA (h): sc-96191

BACKGROUND

IFT81 (intraflagellar transport 81), also known as CDV1 (carnitine deficiency-associated protein expressed in ventricle 1), is a 676 amino acid protein that is present at high levels in testis and is moderately expressed in heart, liver, ovary, pancreas, kidney and skeletal muscle. Existing as three alternatively spliced isoforms, two of which are designated CDV-1 and CDV-1R, IFT81 plays a role in testicular development and spermatogenesis and may also be involved in cardiac hypertrophy caused by carnitine deficiency. The gene encoding IFT81 maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Masuda, M., et al. 1997. A novel gene suppressed in the ventricle of carnitine-deficient juvenile visceral steatosis mice. *FEBS Lett.* 408: 221-224.
2. Higashi, M., et al. 2000. Genomic organization and mapping of mouse CDV (carnitine deficiency-associated gene expressed in ventricle)-1 and its related CDV-1R gene. *Mamm. Genome* 11: 1053-1057.
3. Peng, J., et al. 2002. Identification of human CDV-1R and mouse Cdv-1R, two novel proteins with putative signal peptides, especially highly expressed in testis and increased with the male sex maturation. *Mol. Biol. Rep.* 29: 353-362.
4. Zhang, K.X., et al. 2005. Expression of Cdv-iR gene in mouse epididymis as revealed by *in situ* hybridization. *Arch. Androl.* 51: 7-13.
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. Online Mendelian Inheritance in Man, OMIM[™]. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 605489. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: IFT81 (human) mapping to 12q24.11.

PRODUCT

IFT81 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IFT81 shRNA Plasmid (h): sc-96191-SH and IFT81 shRNA (h) Lentiviral Particles: sc-96191-V as alternate gene silencing products.

For independent verification of IFT81 (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-96191A, sc-96191B and sc-96191C.

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 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

IFT81 siRNA (h) is recommended for the inhibition of IFT81 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 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.

GENE EXPRESSION MONITORING

IFT81 (A-3): sc-374272 is recommended as a control antibody for monitoring of IFT81 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IFT81 gene expression knockdown using RT-PCR Primer: IFT81 (h)-PR: sc-96191-PR (20 μ l). 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.