SANTA CRUZ BIOTECHNOLOGY, INC.

IFT122 siRNA (m): sc-146171

BACKGROUND

IFT122 (intraflagellar transport 122 homolog) is also known as SPG, WDR10p or WDR10 (WD repeat-containing protein 10) and is a 1,241 amino acid protein that is predominantly expressed in testis and pituitary. IFT122 expression occurs in the germ cells of testis and in the somatic granulosa of ovary, suggesting that IFT122 may be involved in the differentiation of cells within the gonads. IFT122 is localized to the cytoplasm and is expressed as two isoforms. IFT122 contains seven WD repeats at its N-terminus and is a member of the WD repeat protein family. The WD repeat family consists of functionally diverse regulatory proteins in eukaryotes, involved in a variety of cellular processes, including cell cycle progression, signal transduction, apoptosis and gene regulation. Proteins that contain WD repeats are thought to more easily facilitate the formation of heterotrimeric or multiprotein complexes. In addition to its WD repeats, IFT122 contains an AF-2 domain that functions in transcriptional activation and in the recruitment of coregulatory molecules. Mutations in AF-2 domains are thought to abolish the transcriptional activities of proteins.

REFERENCES

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4. Smith, T.F. 2008. Diversity of WD-repeat proteins. Subcell. Biochem. 48: 20-30.
5. Achari, Y., Lu, T., Katzenellenbogen, B.S. and Hart, D.A. 2009. Distinct roles for AF-1 and -2 of ER-α in regulation of MMP-13 promoter activity. Biochim. Biophys. Acta 1792: 211-220.
6. Cortellino, S., Wang, C., Wang, B., Bassi, M.R., Caretti, E., Champeval, D., Calmont, A., Jarnik, M., Burch, J., Zaret, K.S., Larue, L. and Bellacosa, A. 2009. Defective ciliogenesis, embryonic lethality and severe impairment of the Sonic Hedgehog pathway caused by inactivation of the mouse complex A intraflagellar transport gene Ift122/Wdr10, partially overlapping with the DNA repair gene Med1/Mbd4. Dev. Biol. 325: 225-237.

CHROMOSOMAL LOCATION

Genetic locus: Ift122 (mouse) mapping to 6 E3.

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.

PRODUCT

IFT122 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 IFT122 shRNA Plasmid (m): sc-146171-SH and IFT122 shRNA (m) Lentiviral Particles: sc-146171-V as alternate gene silencing products.

For independent verification of IFT122 (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-146171A, sc-146171B and sc-146171C.

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

IFT122 siRNA (m) is recommended for the inhibition of IFT122 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 IFT122 gene expression knockdown using RT-PCR Primer: IFT122 (m)-PR: sc-146171-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.