SANTA CRUZ BIOTECHNOLOGY, INC.

OFD1 siRNA (h): sc-91245

BACKGROUND

OFD1 (oral-facial-digital syndrome 1), also known as 71-7A, SGBS2, CXorf5, or JBTS10, is a 1,012 amino acid cytoplasmic and nuclear protein that is widely expressed and is a member of the OFD1 family. Containing one LisH domain, OFD1 exists as a homooligomer that can undergo alternative splicing to produce three alternatively spliced isoforms. ODF1 participates in controlling centriole length and is involved in the biogenesis of cilium, a centriole-associated structure that is found in many vertebrate cells and are required to transduce signals important for development and tissue homeostasis. OFD1 is thought to play a critical role in development by regulating Wnt signaling. Mutations in the gene encoding OFD1 are the cause of several diseases, including oral-facial-digital syndrome type 1 (OFD1), Simpson-Golabi-Behmel syndrome type 2 and Joubert syndrome type 10 (JBTS10).

REFERENCES

1. de Conciliis, L., et al. 1998. Characterization of Cxorf5 (71-7A), a novel human cDNA mapping to Xp22 and encoding a protein containing coiled-coil α-helical domains. Genomics 51: 243-250.
2. Ferrante, M.I., et al. 2001. Identification of the gene for oral-facial-digital type I syndrome. Am. J. Hum. Genet. 68: 569-576.
3. Rakkolainen, A., et al. 2002. Four novel mutations in the OFD1 (Cxorf5) gene in Finnish patients with oral-facial-digital syndrome 1. J. Med. Genet. 39: 292-296.
4. Romio, L., et al. 2003. OFD1, the gene mutated in oral-facial-digital syndrome type 1, is expressed in the metanephros and in human embryonic renal mesenchymal cells. J. Am. Soc. Nephrol. 14: 680-689.
5. Andersen, J.S., et al. 2003. Proteomic characterization of the human centrosome by protein correlation profiling. Nature 426: 570-574.

CHROMOSOMAL LOCATION

Genetic locus: OFD1 (human) mapping to Xp22.2.

PRODUCT

OFD1 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 OFD1 shRNA Plasmid (h): sc-91245-SH and OFD1 shRNA (h) Lentiviral Particles: sc-91245-V as alternate gene silencing products.

For independent verification of OFD1 (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-91245A, sc-91245B and sc-91245C.

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

OFD1 siRNA (h) is recommended for the inhibition of OFD1 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 OFD1 gene expression knockdown using RT-PCR Primer: OFD1 (h)-PR: sc-91245-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.