

PTCHD2 siRNA (m): sc-152575

BACKGROUND

PTCHD2 (patched domain containing 2), also known as protein dispatched homolog 3 or DISP3, is a 1,392 amino acid multi-pass membrane protein that contains one SSD (sterol-sensing) domain and belongs to the patched family. Expressed in retina, brain and testis, PTCHD2 localizes to endoplasmic reticulum and colocalizes with cholesterol. PTCHD2 overexpression leads to increased cholesterol levels, suggesting that PTCHD2 may play a role in cholesterol homeostasis. PTCHD2 is further hypothesized to act as a link between thyroid hormone and cholesterol metabolism. Existing as two alternatively spliced isoforms, PTCHD2 is thought to assist in the release of lipid-anchored secreted proteins and is encoded by a gene that maps to human chromosome 1p36.22.

REFERENCES

1. Nagase, T., Kikuno, R., Ishikawa, K.I., Hirosawa, M. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 65-73.
2. Katoh, Y. and Katoh, M. 2005. Hedgehog signaling pathway and gastric cancer. Cancer Biol. Ther. 4: 1050-1054.
3. Katoh, Y. and Katoh, M. 2005. Identification and characterization of DISP3 gene in silico. Int. J. Oncol. 26: 551-556.
4. Peart, M.J., Smyth, G.K., van Laar, R.K., Bowtell, D.D., Richon, V.M., Marks, P.A., Holloway, A.J. and Johnstone, R.W. 2005. Identification and functional significance of genes regulated by structurally different histone deacetylase inhibitors. Proc. Natl. Acad. Sci. USA 102: 3697-3702.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611251. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Zikova, M., Corlett, A., Bendova, Z., Pajer, P. and Bartunek, P. 2009. DISP3, a sterol-sensing domain-containing protein that links thyroid hormone action and cholesterol metabolism. Mol. Endocrinol. 23: 520-528.

CHROMOSOMAL LOCATION

Genetic locus: Ptchd2 (mouse) mapping to 4 E2.

PRODUCT

PTCHD2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PTCHD2 shRNA Plasmid (m): sc-152575-SH and PTCHD2 shRNA (m) Lentiviral Particles: sc-152575-V as alternate gene silencing products.

For independent verification of PTCHD2 (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-152575A, sc-152575B and sc-152575C.

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

PTCHD2 siRNA (m) is recommended for the inhibition of PTCHD2 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PTCHD2 gene expression knockdown using RT-PCR Primer: PTCHD2 (m)-PR: sc-152575-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.