

# DISP2 siRNA (h): sc-90112

## BACKGROUND

DISP2 (protein dispatched homolog 2), also known as DISPB or KIAA1742, is a 1,401 amino acid multi-pass membrane protein. A member of the dispatched family, DISP2 contains a putative sterol-sensing (SSD) domain. The SSD domain has been identified in key regulatory genes in cholesterol homeostasis and lipoprotein signaling. The gene encoding DISP2 maps to human chromosome 15q15.1. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and comprises about 3% of the human genome. Tay-Sachs disease is a lethal disorder associated with mutations in the HEXA gene, which is encoded by chromosome 15. Marfan syndrome is also associated with chromosome 15 through the FBN1 gene.

## REFERENCES

1. Ma, Y., Erkner, A., Gong, R., Yao, S., Taipale, J., Basler, K. and Beachy, P.A. 2002. Hedgehog-mediated patterning of the mammalian embryo requires transporter-like function of dispatched. *Cell* 111: 63-75.
2. Tian, H., Tenzen, T. and McMahon, A.P. 2004. Dose dependency of Disp1 and genetic interaction between Disp1 and other hedgehog signaling components in the mouse. *Development* 131: 4021-4033.
3. Zody, M.C., Garber, M., Sharpe, T., Young, S.K., Rowen, L., O'Neill, K., Whittaker, C.A., Kamal, M., Chang, J.L., Cuomo, C.A., Dewar, K., FitzGerald, M.G., Kodira, C.D., Madan, A., Qin, S., Yang, X., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. *Nature* 440: 671-675.
4. Cachón-González, M.B., Wang, S.Z., Lynch, A., Ziegler, R., Cheng, S.H. and Cox, T.M. 2006. Effective gene therapy in an authentic model of Tay-Sachs-related diseases. *Proc. Natl. Acad. Sci. USA* 103: 10373-10378.
5. Li, N., Flynt, A.S., Kim, H.R., Solnica-Krezel, L. and Patton, J.G. 2008. Dispatched homolog 2 is targeted by miR-214 through a combination of three weak microRNA recognition sites. *Nucleic Acids Res.* 36: 4277-4285.
6. Midla, G.S. 2008. Diagnosis and management of patients with Marfan syndrome. *JAAPA* 21: 21-25.
7. Pesce, F. and Schena, F.P. 2009. Genome-wide association studies in kidney diseases: Quo Vadis? *Nephrol. Dial. Transplant.* 24: 3589-3592.

## CHROMOSOMAL LOCATION

Genetic locus: DISP2 (human) mapping to 15q15.1.

## PRODUCT

DISP2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DISP2 shRNA Plasmid (h): sc-90112-SH and DISP2 shRNA (h) Lentiviral Particles: sc-90112-V as alternate gene silencing products.

For independent verification of DISP2 (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-90112A, sc-90112B and sc-90112C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

DISP2 siRNA (h) is recommended for the inhibition of DISP2 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  $\mu$ M in 66  $\mu$ 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 DISP2 gene expression knockdown using RT-PCR Primer: DISP2 (h)-PR: sc-90112-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.