

DONSON siRNA (h): sc-91433

BACKGROUND

The smallest of the human chromosomes, 21 makes up about 1.5% of the human genome. Chromosome 21 contains nearly 300 genes and 47 million base pairs. Down syndrome, also known as trisomy 21, is the disease most commonly associated with chromosome 21. The gene encoding DONSON (downstream neighbor of Son) is located on the long arm of chromosome 21 within 65 base pairs of the 3' end of the SON gene, which encodes a nuclear protein that represses Hep B virus promoter activity and transcription of HBV genes. DONSON is a 566 amino acid nuclear protein that has the ability to be phosphorylated and is possibly required for DNA amplification in the ovary. Also, it is probable that DONSON is needed for cell proliferation during development. There are three isoforms of DONSON which exist as a result of alternative splicing events.

REFERENCES

1. Dadrah, K., Mazrani, W., Kessling, A., Lee, J.S. and Buluwela, L. 2000. Organization and conservation of the GART/SON/DONSON locus in mouse and human genomes. *Genomics* 68: 57-62.
2. Müller, S., Stanyon, R., Finelli, P., Archidiacono, N. and Wienberg, J. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. *Proc. Natl. Acad. Sci. USA* 97: 206-211.
3. Hillman, R.T., Green, R.E. and Brenner, S.E. 2004. An unappreciated role for RNA surveillance. *Genome Biol.* 5: R8.
4. Mao, R., Wang, X., Spitznagel, E.L., Frelin, L.P., Ting, J.C., Ding, H., Kim, J.W., Ruczinski, I., Downey, T.J. and Pevsner, J. 2005. Primary and secondary transcriptional effects in the developing human Down syndrome brain and heart. *Genome Biol.* 6: R107.
5. Ait Yahya-Graison, E., Aubert, J., Dauphinot, L., Rivals, I., Prieur, M., Golfier, G., Rossier, J., Personnaz, L., Creau, N., Blehaut, H., Robin, S., Delabar, J.M. and Potier, M.C. 2007. Classification of human chromosome 21 gene-expression variations in Down syndrome: impact on disease phenotypes. *Am. J. Hum. Genet.* 81: 475-491.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 182465. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Imami, K., Sugiyama, N., Kyono, Y., Tomita, M. and Ishihama, Y. 2008. Automated phosphoproteome analysis for cultured cancer cells by two-dimensional nanoLC-MS using a calcined titania/C18 biphasic column. *Anal. Sci.* 24: 161-166.

CHROMOSOMAL LOCATION

Genetic locus: DONSON (human) mapping to 21q22.11.

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

DONSON 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 DONSON shRNA Plasmid (h): sc-91433-SH and DONSON shRNA (h) Lentiviral Particles: sc-91433-V as alternate gene silencing products.

For independent verification of DONSON (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-91433A, sc-91433B and sc-91433C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DONSON gene expression knockdown using RT-PCR Primer: DONSON (h)-PR: sc-91433-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.