

DnaJC28 siRNA (h): sc-91414

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. Alzheimer's disease, Jervell and Lange-Nielsen syndrome and amyotrophic lateral sclerosis are also associated with chromosome 21. Translocations are found to occur between chromosome 21 and 8, and chromosome 21 and 12, in certain leukemias. DnaJC28 (DnaJ homolog subfamily C member 28), also known as C21orf55, C21orf78 or MGC27620 is a 388 amino acid protein that is expressed in the fetal and adult brain, testis, uterus, spleen and liver. It has been suggested that DnaJC28 may play a role in protein folding or as a chaperone. The DnaJC28 gene product has been provisionally designated DnaJC28 pending further characterization.

REFERENCES

1. Tesson, F., Donger, C., Denjoy, I., Berthet, M., Bennaceur, M., Petit, C., Coumel, P., Schwartz, K. and Guicheney, P. 1996. Exclusion of KCNE1 (IsK) as a candidate gene for Jervell and Lange-Nielsen syndrome. *J. Mol. Cell. Cardiol.* 28: 2051-2055.
2. Tyson, J., Tranebjaerg, L., Bellman, S., Wren, C., Taylor, J.F., Bathen, J., Aslaksen, B., Sørland, S.J., Lund, O., Malcolm, S., Pembrey, M., Bhattacharya, S. and Bitner-Glindzic, M. 1997. IsK and KvLQT1: mutation in either of the two subunits of the slow component of the delayed rectifier potassium channel can cause Jervell and Lange-Nielsen syndrome. *Hum. Mol. Genet.* 6: 2179-2185.
3. 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.
4. Mao, R., Wang, X., Spitznagel, E.L., Jr., 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. Robakis, N.K. 2006. The discovery and mapping to chromosome 21 of the Alzheimer's amyloid gene: history revised. *J. Alzheimers Dis.* 10: 453-455.
6. Sun, X., He, G. and Song, W. 2006. BACE2, as a novel APP θ -secretase, is not responsible for the pathogenesis of Alzheimer's disease in Down syndrome. *FASEB J.* 20: 1369-1376.
7. 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.
8. Peterson, L.F., Boyapati, A., Ahn, E.Y., Biggs, J.R., Okumura, A.J., Lo, M.C., Yan, M. and Zhang, D.E. 2007. Acute myeloid leukemia with the 8q22;21q22 translocation: secondary mutational events and alternative t(8;21) transcripts. *Blood* 110: 799-805.

CHROMOSOMAL LOCATION

Genetic locus: DNAJC28 (human) mapping to 21q22.11.

PRODUCT

DnaJC28 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 DnaJC28 shRNA Plasmid (h): sc-91414-SH and DnaJC28 shRNA (h) Lentiviral Particles: sc-91414-V as alternate gene silencing products.

For independent verification of DnaJC28 (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-91414A, sc-91414B and sc-91414C.

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

DnaJC28 siRNA (h) is recommended for the inhibition of DnaJC28 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 DnaJC28 gene expression knockdown using RT-PCR Primer: DnaJC28 (h)-PR: sc-91414-PR (20 μ 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 for detailed protocols and support products.