SANTA CRUZ BIOTECHNOLOGY, INC.

DHRS4L2 siRNA (h): sc-92087

BACKGROUND

DHRS4L2 (dehydrogenase/reductase SDR family member 4-like 2) is a 230 amino acid secreted protein belonging to the short-chain dehydrogenases/reductases (SDR) family. A paralogue of DHRS4, DHRS4L2 is presumed to function as an oxidoreductase and exists as two isoforms produced by alternative splicing events. The gene encoding DHRS4L2 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presinilin 1 (PSEN1) gene, one of the three key genes associated with the development of Alzheimers disease. The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

1. Nagase, T., Ishikawa, K., Nakajima, D., Ohira, M., Seki, N., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1997. Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 4: 141-150.
2. Avramopoulos, D., Fallin, M.D. and Bassett, S.S. 2005. Linkage to chrmosome 14q in Alzheimer's disease (AD) patients without psychotic symptoms. Am. J. Med. Genet. B Neuropsychiatr. Genet. 132B: 9-13.
3. Barbe, L., Lundberg, E., Oksvold, P., Stenius, A., Lewin, E., Björling, E., Asplund, A., Ponten, F., Brismar, H., Uhlen, M. and Andersson-Svahn, H. 2008. Toward a confocal subcellular atlas of the human proteome. Mol. Cell Proteomics 7: 499-508.
4. Larner, A.J. and Doran, M. 2009. Genotype-phenotype relationships of presenilin-1 mutations in Alzheimer's disease: an update. J. Alzheimers Dis. 17: 259-265.
5. Topic, A., Alempijevic, T., Milutinovic, A.S. and Kovacevic, N. 2009. α-1-antitrypsin phenotypes in adult liver disease patients. Ups. J. Med. Sci. 114: 228-234.
6. Zhang, Q., Li, Y., Liu, G., Xu, X., Song, X., Liang, B., Li, R., Xie, J., Du, M., Xiao, L., Gan, X. and Huang, D. 2009. Alternative transcription initiation and splicing variants of the DHRS4 gene cluster. Biosci. Rep. 29: 47-56.
7. Behrends, C., Sowa, M.E., Gygi, S.P. and Harper, J.W. 2010. Network organization of the human autophagy system. Nature 466: 68-76.
8. Su, Z.J., Zhang, Q.X., Liu, G.F., Song, X.H., Li, Q., Wang, R.J., Chen, H.B., Xu, X.Y., Sui, X.X. and Huang, D.Y. 2010. Bioinformatic analysis of the human DHRS4 gene cluster and a proposed mechanism for its transcriptional regulation. BMC Mol. Biol. 11: 43.

CHROMOSOMAL LOCATION

Genetic locus: DHRS4L2 (human) mapping to 14q11.2.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

DHRS4L2 siRNA (h) is a target-specific 19-25 nt siRNA 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 DHRS4L2 shRNA Plasmid (h): sc-92087-SH and DHRS4L2 shRNA (h) Lentiviral Particles: sc-92087-V as alternate gene silencing 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

DHRS4L2 siRNA (h) is recommended for the inhibition of DHRS4L2 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 DHRS4L2 gene expression knockdown using RT-PCR Primer: DHRS4L2 (h)-PR: sc-92087-PR (20 µl). 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.