SANTA CRUZ BIOTECHNOLOGY, INC.

DGAT2L7 siRNA (h): sc-89391

BACKGROUND

DGAT2L7 (putative diacylglycerol O-acyltransferase 2-like protein 7) is a 249 amino acid protein belonging to the diacylglycerol acyltransferase family. DGAT2L7 is believed to function as an acyltransferase, with fatty acyl-CoA as its substrate. The gene encoding DGAT2L7 maps to human chromosome 7q22.1. Chromosome 7 is approximately 158 milllion bases long, encodes over 1,000 genes and makes up approximately 5% of the human genome. Chromosome 7 has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome. Deletions of portions of the q arm of chromosome 7 are linked to myeloid disorders, including acute myelogenous leukemia and myelodysplasia.

REFERENCES

1. Tsipouras, P., Myers, J.C., Ramirez, F. and Prockop, D.J. 1983. Restriction fragment length polymorphism associated with the proα2(I) gene of human type I procollagen. Application to a family with an autosomal dominant form of osteogenesis imperfecta. J. Clin. Invest. 72: 1262-1267.
2. Liang, H., Fairman, J., Claxton, D.F., Nowell, P.C., Green, E.D. and Nagarajan, L. 1998. Molecular anatomy of chromosome 7q deletions in myeloid neoplasms: evidence for multiple critical loci. Proc. Natl. Acad. Sci. USA 95: 3781-3785.
3. Hillier, L.W., Fulton, R.S., Fulton, L.A., Graves, T.A., Pepin, K.H., Wagner-McPherson, C., Layman, D., Maas, J., Jaeger, S., Walker, R., Wylie, K., Sekhon, M., Becker, M.C., O'Laughlin, M.D., et al. 2003. The DNA sequence of human chromosome 7. Nature 424: 157-164.
4. Cheng, D., Nelson, T.C., Chen, J., Walker, S.G., Wardwell-Swanson, J., Meegalla, R., Taub, R., Billheimer, J.T., Ramaker, M. and Feder, J.N. 2003. Identification of acyl coenzyme A:monoacylglycerol acyltransferase 3, an intestinal specific enzyme implicated in dietary fat absorption. J. Biol. Chem. 278: 13611-13614.
5. Winter, A., van Eckeveld, M., Bininda-Emonds, O.R., Habermann, F.A. and Fries, R. 2003. Genomic organization of the DGAT2/MOGAT gene family in cattle *(Bos taurus)* and other mammals. Cytogenet. Genome Res. 102: 42-47.
6. Schoch, C., Kohlmann, A., Dugas, M., Kern, W., Hiddemann, W., Schnittger, S. and Haferlach, T. 2005. Genomic gains and losses influence expression levels of genes located within the affected regions: a study on acute myeloid leukemias with trisomy 8, 11, or 13, monosomy 7, or deletion 5q. Leukemia 19: 1224-1228.
7. Eckert, M.A., Galaburda, A.M., Mills, D.L., Bellugi, U., Korenberg, J.R. and Reiss, A.L. 2006. The neurobiology of Williams syndrome: cascading influences of visual system impairment? Cell. Mol. Life Sci. 63: 1867-1875.
8. Leone, G., Pagano, L., Ben-Yehuda, D. and Voso, M.T. 2007. Therapy-related leukemia and myelodysplasia: susceptibility and incidence. Haematologica 92: 1389-1398.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: DGAT2L7P (human) mapping to 7q22.1.

PRODUCT

DGAT2L7 siRNA (h) is a pool of 2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DGAT2L7 shRNA Plasmid (h): sc-89391-SH and DGAT2L7 shRNA (h) Lentiviral Particles: sc-89391-V as alternate gene silencing products.

For independent verification of DGAT2L7 (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-89391A and sc-89391B.

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

DGAT2L7 siRNA (h) is recommended for the inhibition of DGAT2L7 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 DGAT2L7 gene expression knockdown using RT-PCR Primer: DGAT2L7 (h)-PR: sc-89391-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.