SANTA CRUZ BIOTECHNOLOGY, INC.

DSEL siRNA (h): sc-75882

BACKGROUND

DSEL, also known as NCAG1, is a 1,212 amino acid multi-pass membrane protein expressed in various regions of the brain and multiple peripheral tissues peripheral tissues. Belonging to the dermatan-sulfate isomerase family, DSEL contains a chondroitin sulfate sulfotransferase domain, which suggest that DSEL may be involved in dermatan sulfate biosynthesis. Dermatan sulfate is believed be involved in iduronic acid-dependent interactions with growth factors, selectins, cytokines and coagulation inhibitors. The gene encoding DSEL is located on human chromosome 18 and has been linked to bipolar disease. Human chromosome 18 houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

1. Silbert, J.E. and Sugumaran, G. 2002. Biosynthesis of chondroitin/dermatan sulfate. IUBMB Life 54: 177-186.
2. Goossens, D., et al. 2003. A novel CpG-associated brain-expressed candidate gene for chromosome 18q-linked bipolar disorder. Mol. Psychiatry 8: 83-89.
3. Nusbaum, C., et al. 2005. DNA sequence and analysis of human chromosome 18. Nature 437: 551-555.
4. Pacheco, B., et al. 2009. Two dermatan sulfate epimerases form iduronic acid domains in dermatan sulfate. J. Biol. Chem. 284: 9788-9795.
5. Maccarana, M., et al. 2009. Dermatan sulfate epimerase 1-deficient mice have reduced content and changed distribution of iduronic acids in dermatan sulfate and an altered collagen structure in skin. Mol. Cell. Biol. 29: 5517-5528.

CHROMOSOMAL LOCATION

Genetic locus: DSEL (human) mapping to 18q22.1.

PRODUCT

DSEL 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DSEL shRNA Plasmid (h): sc-75882-SH and DSEL shRNA (h) Lentiviral Particles: sc-75882-V as alternate gene silencing products.

For independent verification of DSEL (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-75882A, sc-75882B and sc-75882C.

PROTOCOLS

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

DSEL siRNA (h) is recommended for the inhibition of DSEL 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 DSEL gene expression knockdown using RT-PCR Primer: DSEL (h)-PR: sc-75882-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.