SANTA CRUZ BIOTECHNOLOGY, INC.

Fibulin-5 siRNA (m): sc-43122

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fibulin proteins contribute to normal development of elastic fiber systems in various types of organs that require elasticity, such as vasculature, lung and skin. Fibulin-5 (EVEC, UP50, DANCE) is an integrin-binding extracellular matrix protein that mediates endothelial cell adhesion. Fibulin-5 is also a calcium-dependent elastin-binding protein that scaffolds cells to elastic fibers, thereby preventing elastinopathy in the skin, lung and vasculature. The Arg-Gly-Asp (RGD) motif in Fibulin-5 interacts with cell surface integrins $\alpha v\beta 3$, $\alpha v\beta 5$ and $\alpha 9\beta 1$, serves as an anchorage for elastic fibers to cells and promotes organization of elastic fibers. The human Fibulin-5 gene maps to chromosome 14q32.12 and encodes a 488 amino acid protein.

REFERENCES

1. Kowal, R.C., Jolsin, J.M., Olsen, E.N. and Schultz, R.A. 1999. Assignment of Fibulin-5 (FBLN5) to human chromosome 14q31 by *in situ* hybridization and radiation hybrid mapping. Cytogenet. Cell Genet. 87: 2-3.
2. Yanagisawa, H., Davis, E.C., Starcher, B.C., Ouchi, T., Yanagisawa, M., Richardson, J.A. and Olson, E.N. 2002. Fibulin-5 is an elastin-binding protein essential for elastic fibre development *in vivo*. Nature 415: 168-171.
3. Midwood, K.S. and Schwarzbauer, J.E. 2002. Elastic fibers: building bridges between cells and their matrix. Curr. Biol. 12: R279-R281.
4. Nakamura, T., Lozano, P.R., Ikeda, Y., Iwanaga, Y., Hinek, A., Minamisawa, S., Cheng, C.F., Kobuke, K., Dalton, N., Takada, Y., Tashiro, K., Ross, J., Jr., Honjo, T. and Chien, K.R. 2002. Fibulin-5/DANCE is essential for elastogenesis *in vivo*. Nature 415: 171-175.
5. Schiemann, W.P., Blobe, G.C., Kalume, D.E., Pandey, A. and Lodish, H.F. 2002. Context-specific effects of Fibulin-5 (DANCE/EVEC) on cell proliferation, motility, and invasion. Fibulin-5 is induced by transforming growth factor-β and affects protein kinase cascades. J. Biol. Chem. 277: 27367-27377.
6. Loeys, B., Van Maldergem, L., Mortier, G., Coucke, P., Gerniers, S., Naeyaert, J.M. and De Paepe, A. 2002. Homozygosity for a missense mutation in Fibulin-5 (FBLN5) results in a severe form of cutis laxa. Hum. Mol. Genet. 11: 2113-2118.
7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604580. World Wide Web URL: http://www.ncbi.nlm.-nih.gov/omim/
8. LocusLink Report (LocusID: 10516). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Fbln5 (mouse) mapping to 12 E.

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

Fibulin-5 siRNA (m) 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 Fibulin-5 shRNA Plasmid (m): sc-43122-SH and Fibulin-5 shRNA (m) Lentiviral Particles: sc-43122-V as alternate gene silencing products.

For independent verification of Fibulin-5 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-43122A, sc-43122B and sc-43122C.

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

Fibulin-5 siRNA (m) is recommended for the inhibition of Fibulin-5 expression in mouse 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 Fibulin-5 gene expression knockdown using RT-PCR Primer: Fibulin-5 (m)-PR: sc-43122-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.