SANTA CRUZ BIOTECHNOLOGY, INC.

ECM2 siRNA (h): sc-92906

BACKGROUND

ECM2 (extracellular matrix protein 2), also known as matrix glycoprotein SC1/ECM2, is a 699 amino acid secreted protein belonging to the small leucine-rich proteoglycan (SLRP) family and SLRP class I subfamily. ECM2 is expressed abundantly in adipose tissue, as well as female-specific organs including mammary gland, ovary, and uterus. Containing 13 LRR (leucine-rich repeats), one LRRNT domain, and one VWFC domain, ECM2 shares a wide range of similarities to known extracellular matrix proteins, including proteoglycan, keratocan, and decorin. ECM2 promotes cell adhesion and matrix assembly, and may function in cell-cell or cell-ECM recognition processes. Existing as two alternatively spliced isoforms, the gene encoding ECM2 maps to human chromosome 9q22.31. Chromosome 9 consists of about 145 million bases and 4% of the human genome and encodes nearly 900 genes.

REFERENCES

1. Oritani, K., Kanakura, Y., Aoyama, K., Yokota, T., Copeland, N.G., Gilbert, D.J., Jenkins, N.A., Tomiyama, Y., Matsuzawa, Y. and Kincade, P.W. 1997. Matrix glycoprotein SC1/ECM2 augments B lymphopoiesis. Blood 90: 3404-3413.
2. Nishiu, J., Tanaka, T. and Nakamura, Y. 1998. Identification of a novel gene (ECM2) encoding a putative extracellular matrix protein expressed predominantly in adipose and female-specific tissues and its chromosomal localization to 9q22.3. Genomics 52: 378-381.
3. Oritani, K. and Kincade, P.W. 1998. Lymphopoiesis and matrix glycoprotein SC1/ECM2. Leuk. Lymphoma 32: 1-7.
4. Brekken, R.A., Sullivan, M.M., Workman, G., Bradshaw, A.D., Carbon, J., Siadak, A., Murri, C., Framson, P.E. and Sage, E.H. 2004. Expression and characterization of murine hevin (SC1), a member of the SPARC family of matricellular proteins. J. Histochem. Cytochem. 52: 735-748.
5. Tasheva, E.S., Klocke, B. and Conrad, G.W. 2004. Analysis of transcriptional regulation of the small leucine rich proteoglycans. Mol. Vis. 10: 758-772.
6. Humphray, S.J., Oliver, K., Hunt, A.R., Plumb, R.W., Loveland, J.E., Howe, K.L., Andrews, T.D., Searle, S., Hunt, S.E., Scott, C.E., Jones, M.C., Ainscough, R., Almeida, J.P., Ambrose, K.D., Ashwell, R.I., et al. 2004. DNA sequence and analysis of human chromosome 9. Nature 429: 369-374.
7. Tondreau, T., Dejeneffe, M., Meuleman, N., Stamatopoulos, B., Delforge, A., Martiat, P., Bron, D. and Lagneaux, L. 2008. Gene expression pattern of functional neuronal cells derived from human bone marrow mesenchymal stromal cells. BMC Genomics 9: 166.
8. Schaefer, L. and Iozzo, R.V. 2008. Biological functions of the small leucine-rich proteoglycans: from genetics to signal transduction. J. Biol. Chem. 283: 21305-21309.

CHROMOSOMAL LOCATION

Genetic locus: ECM2 (human) mapping to 9q22.31.

PROTOCOLS

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

PRODUCT

ECM2 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 ECM2 shRNA Plasmid (h): sc-92906-SH and ECM2 shRNA (h) Lentiviral Particles: sc-92906-V as alternate gene silencing products.

For independent verification of ECM2 (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-92906A, sc-92906B and sc-92906C.

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

ECM2 siRNA (h) is recommended for the inhibition of ECM2 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 ECM2 gene expression knockdown using RT-PCR Primer: ECM2 (h)-PR: sc-92906-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.