SANTA CRUZ BIOTECHNOLOGY, INC.

Leiomodin 2 siRNA (m): sc-146698

BACKGROUND

Members of the Leiomodin protein family are closely related to the tropomodulin family of actin filament pointed end-capping proteins. Leiomodins are actin-binding proteins that act as strong filament nucleators in muscle cells. Leiomodin 1 is highly expressed in a variety of tissues that contain smooth muscle, therefore it is also known as smooth muscle Leiomodin, or SM-Lmod. Also designated C-Lmod, Leiomodin 3 is found in several types of fetal tissue and is involved in tropomyosin binding. Leiomodin 2, also known as C-LMOD or LMOD2, is a 547 amino acid protein that is specifically expressed in heart and skeletal muscles. Leiomodin 2 binds to tropomyosin and may block the elongation and depolymerization of actin filaments at their pointed end. Leiomodin 2 is encoded by a gene that is located near the hypertrophic cardiomyopathy locus CMH6 on chromosome 7, suggesting that Leiomodin 2 may be involved in that disease process. Leiomodin 2 is expressed as three alternatively spliced variants.

REFERENCES

1. Conley, C.A. and Fowler, V.M. 1999. Localization of the human 64 kD autoantigen D1 to myofibrils in a subset of extraocular muscle fibers. Curr. Eye Res. 19: 313-322.
2. Conley, C.A. 2001. Leiomodin and tropomodulin in smooth muscle. Am. J. Physiol., Cell Physiol. 280: C1645-C1656.
3. Conley, C.A., Fritz-Six, K.L., Almenar-Queralt, A. and Fowler, V.M. 2001. Leiomodins: larger members of the tropomodulin (Tmod) gene family. Genomics 73: 127-139.
4. Kostyukova, A.S. 2007. Leiomodin/tropomyosin interactions are isoform specific. Arch. Biochem. Biophys. 465: 227-230.
5. Fujarewicz, K., Jarzab, M., Eszlinger, M., Krohn, K., Paschke, R., Oczko-Wojciechowska, M., Wiench, M., Kukulska, A., Jarzab, B. and Swierniak, A. 2007. A multi-gene approach to differentiate papillary thyroid carcinoma from benign lesions: gene selection using support vector machines with bootstrapping. Endocr. Relat. Cancer 14: 809-826.
6. De Minicis, S., Seki, E., Uchinami, H., Kluwe, J., Zhang, Y., Brenner, D.A. and Schwabe, R.F. 2007. Gene expression profiles during hepatic stellate cell activation in culture and *in vivo*. Gastroenterology 132: 1937-1946.
7. Chereau, D., Boczkowska, M., Skwarek-Maruszewska, A., Fujiwara, I., Hayes, D.B., Rebowski, G., Lappalainen, P., Pollard, T.D. and Dominguez, R. 2008. Leiomodin is an actin filament nucleator in muscle cells. Science 320: 239-243.

CHROMOSOMAL LOCATION

Genetic locus: Lmod2 (mouse) mapping to 6 A3.1.

PRODUCT

Leiomodin 2 siRNA (m) 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 Leiomodin 2 shRNA Plasmid (m): sc-146698-SH and Leiomodin 2 shRNA (m) Lentiviral Particles: sc-146698-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

Leiomodin 2 siRNA (m) is recommended for the inhibition of Leiomodin 2 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 Leiomodin 2 gene expression knockdown using RT-PCR Primer: Leiomodin 2 (m)-PR: sc-146698-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.

PROTOCOLS

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