SANTA CRUZ BIOTECHNOLOGY, INC.

Leiomodin 1 siRNA (m): sc-146697

BACKGROUND

Members of the Leiomodin protein family are closely related to the tropomodulin family of Actin filament pointed end-capping proteins. Leiomodins are characterized as Actin-binding proteins that acts as strong filament nucleators in muscle cells. Leiomodin 1, also known as 64 kDa autoantigen D1 or SM-Lmod, is a 600 amino acid protein that is highly expressed in a variety of tissues that contain smooth muscle and is expressed at lower levels in thyroid and extraocular muscles. Analyzing sera from patients with Hashi-moto thyroiditis with thyroid-associated ophthalmopathy (TAO) revealed that antibodies against Leiomodin 1 had been produced in 8 out of 34 patients, while all 12 normal and nonautoimmune individuals were negative. There are two isoforms of Leiomodin 1, which are produced as a result of alternative splicing events.

REFERENCES

1. Dong, Q., Ludgate, M. and Vassart, G. 1991. Cloning and sequencing of a novel 64 kDa autoantigen recognized by patients with autoimmune thyroid disease. J. Clin. Endocrinol. Metab. 72: 1375-1381.
2. Zhang, Z.G., Dong, Q., Rodien, P., Alcalde, L., Bernard, N., Boucher, A., Salvi, M., Arthurs, B., Vassart, G.M. and Ludgate, M. 1992. Antibodies in the serum of patients with autoimmune thyroid disorders react with a recombinant 98 amino acid fragment of a full length 64 kDa eye muscle membrane protein which is also expressed in the thyroid. Autoimmunity 13: 151-157.
3. Wall, J.R., Triller, H., Boucher, A., Bernard, N.F., Salvi, M. and Ludgate, M. 1993. Antibodies reactive with an intracellular epitope of a recombinant 64 kDa thyroid and eye muscle protein in patients with thyroid autoimmunity and ophthalmopathy. J. Endocrinol. Invest. 16: 863-868.

CHROMOSOMAL LOCATION

Genetic locus: Lmod1 (mouse) mapping to 1 E4.

PRODUCT

Leiomodin 1 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 Leiomodin 1 shRNA Plasmid (m): sc-146697-SH and Leiomodin 1 shRNA (m) Lentiviral Particles: sc-146697-V as alternate gene silencing products.

For independent verification of Leiomodin 1 (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-146697A, sc-146697B and sc-146697C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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

Leiomodin 1 siRNA (m) is recommended for the inhibition of Leiomodin 1 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 1 gene expression knockdown using RT-PCR Primer: Leiomodin 1 (m)-PR: sc-146697-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.