SANTA CRUZ BIOTECHNOLOGY, INC.

LMO7 siRNA (m): sc-60955

BACKGROUND

The LIM-only (LMO) proteins are nuclear factors characterized by a conserved LIM domain. The LIM domain contains a cysteine-rich zinc-binding motif, present in a variety of transcription factors, including the LIM homeobox (LHX) proteins expressed in the central nervous system. The deduced LMO7 protein is comprised of 1,349 amino acid residues, contains a characteristic zinc finger domain and a 3' UTR which possesses a short interspersed nucleotide element (SINE). RT-PCR detects predominant expression of LMO7 in heart, lung, skeletal muscle, and kidney, moderate expression in liver, ovary, brain, pancreas, and testis, and little to no expression in spleen. Research indicates that LMO7 is an afadin- and α-actinin-binding protein that connects the nectin-afadin and E-cadherin-catenin systems through α-actinin.

REFERENCES

1. Putilina, T., et al. 1998. Analysis of a human cDNA containing a tissue-specific alternatively spliced LIM domain. Biochem. Biophys. Res. Commun. 252: 433-439.
2. Cenciarelli, C., et al. 1999. Identification of a family of human F-box proteins. Curr. Biol. 9: 1177-1179.
3. Nagase, T., et al. 1999. Prediction of the coding S sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 355-364.
4. Rozenblum, E., et al. 2002. A genomic map of a 6 Mb region at 13q21-q22 implicated in cancer development: identification and characterization of candidate genes. Hum. Genet. 110: 111-121.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604362. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Semenova, E., et al. 2003. An engineered 800 kilobase deletion of Uchl3 and LMO7 on mouse chromosome 14 causes defects in viability, postnatal growth and degeneration of muscle and retina. Hum. Mol. Genet. 12: 1301-1312.

CHROMOSOMAL LOCATION

Genetic locus: Lmo7 (mouse) mapping to 14 E2.3.

PRODUCT

LMO7 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 LMO7 shRNA Plasmid (m): sc-60955-SH and LMO7 shRNA (m) Lentiviral Particles: sc-60955-V as alternate gene silencing products.

For independent verification of LMO7 (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-60955A, sc-60955B and sc-60955C.

RESEARCH USE

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

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

LMO7 siRNA (m) is recommended for the inhibition of LMO7 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.

GENE EXPRESSION MONITORING

LMO7 (B-7): sc-376807 is recommended as a control antibody for monitoring of LMO7 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LMO7 gene expression knockdown using RT-PCR Primer: LMO7 (m)-PR: sc-60955-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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