SANTA CRUZ BIOTECHNOLOGY, INC.

LASP-1 siRNA (m): sc-105608

BACKGROUND

LASP-1 (LIM and SH3 domain protein 1), also known as MLN50, is a 261 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and contains one SH3 domain, one LIM zinc-binding domain and two nebulin repeats. Expressed as two alternatively spliced isoforms, LASP-1 interacts with F-Actin and plays an important role in the regulation of Actin-associated cytoskeletal organization. LASP-1 is subject to post-translational phosphorylation, an event which may regulate Actin-related ion transport activities in epithelial cells. Overexpression of LASP-1 is associated with breast cancer, suggesting a role for LASP-1 in tumor transformation and metastasis. The gene encoding LASP-1 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

REFERENCES

1. Tomasetto, C., et al. 1995. LASP-1 (MLN 50) defines a new LIM protein subfamily characterized by the association of LIM and SH3 domains. FEBS Lett. 373: 245-249.
2. Schreiber, V., et al. 1998. Chromosomal assignment and expression pattern of the murine LASP-1 gene. Gene 207: 171-175.
3. Butt, E., et al. 2003. Actin binding of human LIM and SH3 protein is regulated by cGMP- and cAMP-dependent protein kinase phosphorylation on serine 146. J. Biol. Chem. 278: 15601-15607.
4. Strehl, S., et al. 2003. The human LASP1 gene is fused to MLL in an acute myeloid leukemia with t(11;17)(q23;q21). Oncogene 22: 157-160.
5. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 602920. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Keicher, C., et al. 2004. Phosphorylation of mouse LASP-1 on threonine 156 by cAMP- and cGMP-dependent protein kinase. Biochem. Biophys. Res. Commun. 324: 308-316.
7. Li, B., et al. 2004. Zyxin interacts with the SH3 domains of the cytoskeletal proteins LIM-nebulette and Lasp-1. J. Biol. Chem. 279: 20401-20410.

CHROMOSOMAL LOCATION

Genetic locus: LASP1 (mouse) mapping to 11 D.

PRODUCT

LASP-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 LASP-1 shRNA Plasmid (m): sc-105608-SH and LASP-1 shRNA (m) Lentiviral Particles: sc-105608-V as alternate gene silencing products.

For independent verification of LASP-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-105608A, sc-105608B and sc-105608C.

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

LASP-1 siRNA (m) is recommended for the inhibition of LASP-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.

GENE EXPRESSION MONITORING

LASP-1 (G-7): sc-374059 is recommended as a control antibody for monitoring of LASP-1 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 LASP-1 gene expression knockdown using RT-PCR Primer: LASP-1 (m)-PR: sc-105608-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.