

LARP7 siRNA (m): sc-146654

BACKGROUND

LARP7 (La ribonucleoprotein domain family, member 7), also known as PIP7S or HDCMA18P, is a 582 amino acid protein that localizes to the nucleoplasm and contains one RRM domain and one HTH La-type RNA-binding domain. Expressed as two alternatively spliced isoforms, LARP7 functions as an integral part of the 7SK RNP complex and binds to the highly conserved 3'-terminal U-rich stretch of 7SK RNA, effectively sequestering positive elongation factors and repressing transcription of Pol II genes. Via its ability to control transcription and elongation, LARP7 is thought to be involved in cell growth and tumorigenesis. LARP7 is subject to DNA damage-dependent phosphorylation, probably by Atm or ATR.

REFERENCES

1. Markert, A., Grimm, M., Martinez, J., Wiesner, J., Meyerhans, A., Meyuhas, O., Sickmann, A. and Fischer, U. 2008. The La-related protein LARP7 is a component of the 7SK ribonucleoprotein and affects transcription of cellular and viral polymerase II genes. *EMBO Rep.* 9: 569-575.
2. Biewenga, P., Buist, M.R., Moerland, P.D., Ver Loren van Themaat, E., van Kampen, A.H., ten Kate, F.J. and Baas, F. 2008. Gene expression in early stage cervical cancer. *Gynecol. Oncol.* 108: 520-526.
3. He, N., Jahchan, N.S., Hong, E., Li, Q., Bayfield, M.A., Maraia, R.J., Luo, K. and Zhou, Q. 2008. A La-related protein modulates 7SK snRNP integrity to suppress P-TEFb-dependent transcriptional elongation and tumorigenesis. *Mol. Cell* 29: 588-599.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612026. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Diribarne, G. and Bensaude, O. 2009. 7SK RNA, a non-coding RNA regulating P-TEFb, a general transcription factor. *RNA Biol.* 6: 122-128.

CHROMOSOMAL LOCATION

Genetic locus: Larp7 (mouse) mapping to 3 G2.

PRODUCT

LARP7 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LARP7 shRNA Plasmid (m): sc-146654-SH and LARP7 shRNA (m) Lentiviral Particles: sc-146654-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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

LARP7 siRNA (m) is recommended for the inhibition of LARP7 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 μ M in 66 μ l. 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

LARP7 (E-5): sc-515209 is recommended as a control antibody for monitoring of LARP7 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 LARP7 gene expression knockdown using RT-PCR Primer: LARP7 (m)-PR: sc-146654-PR (20 μ l). 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.