

LARP1 siRNA (h): sc-91848

BACKGROUND

La-related protein 1 (LARP1), also known as KIAA0731, is a 1,096 amino acid protein belonging to the LARP family. LARP1 contains two conserved regions, one that shares homology with La/SSB proteins and one that is conserved only across LARP family proteins. Within the La/SSB conserved region, LARP1 contains a HTH La-type RNA-binding domain, which may indicate a role in RNA stabilization and folding. Upon DNA damage, LARP1 is phosphorylated by ATR or ATM. LARP1 interacts with many signaling intermediate proteins, including 14-3-3 β , 14-3-3 γ , 14-3-3 θ and 14-3-3. Widely expressed, LARP1 levels are highest in heart. LARP1 exists as three isoforms produced by alternative splicing.

REFERENCES

1. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XI. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 277-286.
2. Chauvet, S., et al. 2000. dlarp, a new candidate Hox target in *Drosophila* whose orthologue in mouse is expressed at sites of epithelium/mesenchymal interactions. Dev. Dyn. 218: 401-413.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 612059. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Jin, J., et al. 2004. Proteomic, functional, and domain-based analysis of *in vivo* 14-3-3 binding proteins involved in cytoskeletal regulation and cellular organization. Curr. Biol. 14: 1436-1450.
5. Horke, S., et al. 2004. Nuclear trafficking of La protein depends on a newly identified nucleolar localization signal and the ability to bind RNA. J. Biol. Chem. 279: 26563-26570.
6. Beausoleil, S.A., et al. 2004. Large-scale characterization of HeLa cell nuclear phosphoproteins. Proc. Natl. Acad. Sci. USA 101: 12130-12135.
7. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. Science 316: 1160-1166.

CHROMOSOMAL LOCATION

Genetic locus: LARP1 (human) mapping to 5q33.2.

PRODUCT

LARP1 siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LARP1 shRNA Plasmid (h): sc-91848-SH and LARP1 shRNA (h) Lentiviral Particles: sc-91848-V as alternate gene silencing products.

For independent verification of LARP1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-91848A, sc-91848B and sc-91848C.

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 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

LARP1 siRNA (h) is recommended for the inhibition of LARP1 expression in human 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

LARP1 (A-8): sc-515873 is recommended as a control antibody for monitoring of LARP1 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 LARP1 gene expression knockdown using RT-PCR Primer: LARP1 (h)-PR: sc-91848-PR (20 μ l). 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.