

# LSP1 siRNA (h): sc-42899

## BACKGROUND

pp52 (human) or LSP1 (murine) is a hematopoietic-expressed gene that encodes an F-Actin-binding, leukocyte-specific (including B and T lymphocytes, granulocytes and macrophages), phosphoprotein. However, mRNA splice variants that do not encode the lympho-specific protein are expressed from this gene in nonlymphoid cell lines as well (myocytes, stromal cells and fibroblasts), suggesting pp52 has a divergent role in signal transduction. The pp52 (LSP1) locus maps to human chromosome 11p15.5, which is implicated in tumor-related chromosomal translocations found in chronic lymphocytic leukemia. The pp52 promoter contains key elements that control transcriptional activity including an initiator specifying the unique 5' terminus of pp52 mRNA, tandem pairs of Ets and SP1 motifs, and a single C/EBP motif. LSP1 binds the cytoskeleton and has been implicated in affecting cytoskeletal remodeling in a variety of leukocyte functions, including cell motility and chemotaxis.

## REFERENCES

1. Gimble, J.M., et al. 1993. Alternatively spliced pp52 mRNA in nonlymphoid stromal cells. *J. Immunol.* 150: 115-121.
2. May, W., et al. 1993. Human lymphocyte-specific pp52 gene is a member of a highly conserved dispersed family. *Genomics* 15: 515-520.
3. Omori, S.A., et al. 1997. Differential interaction of nuclear factors with the leukocyte-specific pp52 promoter in B and T cells. *J. Immunol.* 159: 1800-1808.
4. Miyoshi, E.K., et al. 2001. Aberrant expression and localization of the cytoskeleton-binding pp52 (LSP1) protein in hairy cell leukemia. *Leuk. Res.* 25: 57-67.

## CHROMOSOMAL LOCATION

Genetic locus: LSP1 (human) mapping to 11p15.5.

## PRODUCT

LSP1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LSP1 shRNA Plasmid (h): sc-42899-SH and LSP1 shRNA (h) Lentiviral Particles: sc-42899-V as alternate gene silencing products.

For independent verification of LSP1 (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-42899A, sc-42899B and sc-42899C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

LSP1 siRNA (h) is recommended for the inhibition of LSP1 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  $\mu$ M in 66  $\mu$ 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

LSP1 (TDP153): sc-53363 is recommended as a control antibody for monitoring of LSP1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LSP1 gene expression knockdown using RT-PCR Primer: LSP1 (h)-PR: sc-42899-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Kulkarni, R., et al. 2020. Lymphocyte-specific protein 1 (LSP1) regulates bone marrow stromal antigen 2 (BST-2)-mediated intracellular trafficking of HIV-1 in dendritic cells. *FEBS Lett.* 594: 1947-1959.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.