

# Liprin $\alpha$ 3 siRNA (h): sc-72334

## BACKGROUND

Liprins interact with members of the leukocyte common antigen-related (LAR) family of transmembrane protein tyrosine phosphatases, which are implicated in axon guidance and mammary gland development. Liprins are multivalent proteins that form complex structures and act as scaffolds for the recruitment and anchoring of LAR phosphatases. Based on sequence similarities and binding characteristics, Liprins are subdivided into  $\alpha$  and  $\beta$  liprins. Both  $\alpha$  and  $\beta$  Liprins homodimerize via their N-terminal, coiled coil regions. Liprin  $\alpha$ 3, also designated PTPRF-interacting protein  $\alpha$ 3, is a cytoplasmic protein expressed exclusively in brain. Due to alternative splicing, a second isoform exists for Liprin  $\alpha$ 3. Isoform 2 lacks the amino acid sequence 937-945.

## REFERENCES

1. Serra-Pages, C., et al. 1998. Liprins, a family of LAR transmembrane protein-tyrosine phosphatase-interacting proteins. *J. Biol. Chem.* 273: 15611-15620.
2. Zhen, M. and Jin, Y. 1999. The Liprin protein SYD-2 regulates the differentiation of presynaptic termini in *C. elegans*. *Nature* 401: 371-375.
3. Kaufmann, N., et al. 2002. *Drosophila* Liprin- $\alpha$  and the receptor phosphatase Dlar control synapse morphogenesis. *Neuron* 34: 27-38.
4. Ko, J., et al. 2003. Interaction between Liprin- $\alpha$  and GIT1 is required for AMPA receptor targeting. *J. Neurosci.* 23: 1667-1677.
5. Ko, J., et al. 2003. Interaction of the ERC family of RIM-binding proteins with the Liprin- $\alpha$  family of multidomain proteins. *J. Biol. Chem.* 278: 42377-42385.
6. Katoh, M. and Katoh, M. 2003. Identification and characterization of human PPFIA4 gene in silico. *Int. J. Mol. Med.* 12: 1009-1014.
7. Miller, K.E., et al. 2005. Direct observation demonstrates that Liprin- $\alpha$  is required for trafficking of synaptic vesicles. *Curr. Biol.* 15: 684-689.
8. Hofmeyer, K., et al. 2006. Liprin- $\alpha$  has LAR-independent functions in R7 photoreceptor axon targeting. *Proc. Natl. Acad. Sci. USA* 103: 11595-11600.
9. Tannu, N., et al. 2006. Cytosolic proteomic alterations in the nucleus accumbens of cocaine overdose victims. *Mol. Psychiatry* 12: 55-73.

## CHROMOSOMAL LOCATION

Genetic locus: PPFIA3 (human) mapping to 19q13.33.

## PRODUCT

Liprin  $\alpha$ 3 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 Liprin  $\alpha$ 3 shRNA Plasmid (h): sc-72334-SH and Liprin  $\alpha$ 3 shRNA (h) Lentiviral Particles: sc-72334-V as alternate gene silencing products.

For independent verification of Liprin  $\alpha$ 3 (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-72334A, sc-72334B and sc-72334C.

## 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

Liprin  $\alpha$ 3 siRNA (h) is recommended for the inhibition of Liprin  $\alpha$ 3 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Liprin  $\alpha$ 3 gene expression knockdown using RT-PCR Primer: Liprin  $\alpha$ 3 (h)-PR: sc-72334-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.