SANTA CRUZ BIOTECHNOLOGY, INC.

Liprin α2 siRNA (m): sc-72333

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 similarites and binding characteristics, Liprins are subdivided into α and β Liprins. Both α and β liprins homodimerize via their N-terminal, coiled coil regions. Liprin α2, also known as PTPRF-interacting protein α2, regulates the disassembly of focal adhesions and is expressed in brain and prostate. Liprin α2 is downregulated by dihyrdotestosterone (DHT) in prostate cancer cells in an androgen-dependent manner. The loss of Liprin α2 expression may be associated with the androgen-independent characteristics of prostate cancer.

REFERENCES

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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.
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4. Fujinami, K., et al. 2002. Liprin-α2 gene, protein tyrosine phosphatase LAR interacting protein related gene, is downregulated by androgens in the human prostate cancer cell line LNCaP. Int. J. Mol. Med. 10: 173-176.
5. Ko, J., et al. 2003. Interaction between Liprin-α and GIT1 is required for AMPA receptor targeting. J. Neurosci. 23: 1667-1677.
6. Ko, J., et al. 2003. Interaction of the ERC family of RIM-binding proteins with the Liprin-α family of multidomain proteins. J. Biol. Chem. 278: 42377-42385.
7. Miller, K.E., et al. 2005. Direct observation demonstrates that Liprin-α is required for trafficking of synaptic vesicles. Curr. Biol. 15: 684-689.
8. Olsen, O., et al. 2006. Synaptic transmission regulated by a presynaptic MALS/Liprin-α protein complex. Curr. Opin. Cell Biol. 18: 223-227.

CHROMOSOMAL LOCATION

Genetic locus: Ppfia2 (mouse) mapping to 10 D1.

PRODUCT

Liprin α2 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 Liprin α2 shRNA Plasmid (m): sc-72333-SH and Liprin α2 shRNA (m) Lentiviral Particles: sc-72333-V as alternate gene silencing products.

For independent verification of Liprin α2 (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-72333A, sc-72333B and sc-72333C.

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

Liprin α2 siRNA (m) is recommended for the inhibition of Liprin α2 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

Liprin α2 (H-2): sc-393299 is recommended as a control antibody for monitoring of Liprin α2 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 Liprin α2 gene expression knockdown using RT-PCR Primer: Liprin α2 (m)-PR: sc-72333-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.