SANTA CRUZ BIOTECHNOLOGY, INC.

Vinexin siRNA (h): sc-40342

BACKGROUND

Vinexin, also known as SORBS3 or SCAM1, is a cytoskeletal protein that is expressed as three isoforms, designated Vinexin α, β and γ. Suggested to play pivotal roles in cell adhesion, cytoskeletal organization and cell signaling, Vinexin isoforms function to promote up-regulation of actin stress fiber formation as well as activation of the JNK pathway in response to EGF stimulation. Vinexin contains three SH3 domains and one sorbin homology (SoHo) domain and binds to vinculin through its first two SH3 domains at the proline rich region of vinculin, and to SOS (guanine nucleotide exchange factor of RAS and RAC) through its third SH3 domain. Vinexin is expressed in a variety of tissues including placenta, heart, liver, brain, pancreas and skeletal muscle with localization at focal adhesion sites, cell-cell junctions and cell-extracellular matrix junctions. The β isoform localizes to the nucleus.

REFERENCES

1. Akamatsu, M., et al. 1999. Vinexin forms a signaling complex with Sos and modulates epidermal growth factor-induced c-Jun N-terminal kinase/stress-activated protein kinase activities. J. Biol. Chem. 274: 35933-35937.
2. Kioka, N., et al. 1999. Vinexin: a novel vinculin-binding protein with multiple SH3 domains enhances actin cytoskeletal organization. J. Cell Biol. 144: 59-69.
3. Kioka, N., et al. 2002. Vinexin, CAP/ponsin, ArgBP2: a novel adaptor protein family regulating cytoskeletal organization and signal transduction. Cell Struct. Funct. 27: 1-7.
4. Tujague, M., et al. 2004. The focal adhesion protein Vinexin α regulates the phosphorylation and activity of estrogen receptor α. J. Biol. Chem. 279: 9255-9263.
5. Matsuyama, M., et al. 2005. A novel isoform of Vinexin, Vinexin γ, regulates Sox9 gene expression through activation of MAPK cascade in mouse fetal gonad. Genes Cells 10: 421-434.
6. Paternotte, N., et al. 2005. SHIP2 interaction with the cytoskeletal protein Vinexin. FEBS J. 272: 6052-6066.

CHROMOSOMAL LOCATION

Genetic locus: SORBS3 (human) mapping to 8p21.3.

PRODUCT

Vinexin 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Vinexin shRNA Plasmid (h): sc-40342-SH and Vinexin shRNA (h) Lentiviral Particles: sc-40342-V as alternate gene silencing products.

For independent verification of Vinexin (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-40342A, sc-40342B and sc-40342C.

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

Vinexin siRNA (h) is recommended for the inhibition of Vinexin 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 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

Vinexin (D-4): sc-398275 is recommended as a control antibody for monitoring of Vinexin 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 Vinexin gene expression knockdown using RT-PCR Primer: Vinexin (h)-PR: sc-40342-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.