SANTA CRUZ BIOTECHNOLOGY, INC.

β-parvin siRNA (m): sc-61303

BACKGROUND

The parvin family, including α-parvin, β-parvin and γ-parvin, link integrins and associated proteins with intracellular pathways, which regulate actin cytoskeletal dynamics and cell survival. All three family members localize to focal adhesions and function in cell adhesion, spreading, motility and survival through interactions with partners, such as integrin-linked kinase (ILK), paxillin, α-actinin and testicular kinase 1. α-parvin is widely expressed, with highest levels detected in the skeletal muscle, heart, liver and kidney. A complex made up of α-parvin, ILK and the LIM protein PINCH-1 is critical for cell survival in a variety of cells, including certain cancer cells, kidney podocytes and cardiac myocytes. β-parvin links initial integrin signals to rapid actin reorganization, thereby playing a critical role in fibroblast migration. The ILK-γ-parvin complex is essential for the establishment of cell polarity required for leukocyte migration.

REFERENCES

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2. Korenbaum, E., Olski, T.M. and Noegel, A.A. 2001. Genomic organization and expression profile of the parvin family of focal adhesion proteins in mice and humans. Gene 279: 69-79.
3. Aboulaich, N., Vainonen, J.P., Stralfors, P. and Vener, A.V. 2004. Vectorial proteomics reveal targeting, phosphorylation and specific fragmentation of polymerase I and transcript release factor (PTRF) at the surface of caveolae in human adipocytes. Biochem. J. 383: 237-248.
4. Yamaji, S., Suzuki, A., Kanamori, H., Mishima, W., Yoshimi, R., Takasaki, H., Takabayashi, M., Fujimaki, K., Fujisawa, S., Ohno, S. and Ishigatsubo, Y. 2004. Affixin interacts with α-actinin and mediates integrin signaling for reorganization of F-Actin induced by initial cell-substrate interaction. J. Cell Biol. 165: 539-551.
5. Zhang, Y., Chen, K., Tu, Y. and Wu, C. 2004. Distinct roles of two structurally closely related focal adhesion proteins, α-parvins and β-parvins, in regulation of cell morphology and survival. J. Biol. Chem. 279: 41695-41705.

CHROMOSOMAL LOCATION

Genetic locus: Parvb (mouse) mapping to 15 E2.

PRODUCT

β-parvin 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 β-parvin shRNA Plasmid (m): sc-61303-SH and β-parvin shRNA (m) Lentiviral Particles: sc-61303-V as alternate gene silencing products.

For independent verification of β-parvin (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-61303A, sc-61303B and sc-61303C.

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

β-parvin siRNA (m) is recommended for the inhibition of β-parvin 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

β-parvin (D-2): sc-374581 is recommended as a control antibody for monitoring of β-parvin 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 β-parvin gene expression knockdown using RT-PCR Primer: β-parvin (m)-PR: sc-61303-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.