SANTA CRUZ BIOTECHNOLOGY, INC.

CTTNBP2 siRNA (h): sc-89339

BACKGROUND

Cortactin (also designated Ems-1) is a filamentous actin (F-actin) binding protein that functions as a substrate for c-Src and contains tandem 37 amino acid repeats at its N-terminus and an SH3 domain at its C-terminus. The tandem repeats appear to be necessary for F-actin binding, and tyrosine phosphorylation of Cortactin by c-Src results in diminished F-actin binding and reduced F-actin cross-linking activity. Cortactin exhibits abundant expression in megakaryocytes and platelets, where it may play a role in cellular maturation. CTTNBP2 (cortactin binding protein 2), also known as Orf4, C7orf8 or CORTBP2, is a 1,663 amino acid protein that contains six ankyrin repeats. Expressed at high levels in brain and present at lower levels in heart, kidney, lung, liver, pancreas and skeletal muscle, CTTNBP2 interacts with the SH3 domain of Cortactin and may regulate Cortactin function.

REFERENCES

1. Wu, H. and Parsons, J.T. 1993. Cortactin, an 80/85-kilodalton pp60src substrate, is a filamentous Actin-binding protein enriched in the cell cortex. J. Cell Biol. 120: 1417-1426.
2. Zhan, X., et al. 1993. Murine Cortactin is phosphorylated in response to fibroblast growth factor-1 on tyrosine residues late in the G_1 phase of the BALB/c 3T3 cell cycle. J. Biol. Chem. 268: 24427-24431.
3. Zhan, X., et al. 1994. Association of fibroblast growth factor receptor-1 with c-Src correlates with association between c-Src and Cortactin. J. Biol. Chem. 269: 20221-20224.
4. Okamura, H. and Resh, M.D. 1995. p80/85 Cortactin associates with the Src SH2 domain and colocalizes with v-Src in transformed cells. J. Biol. Chem. 270: 26613-26618.
5. Huang, C., et al. 1997. Down-regulation of the filamentous actin cross-linking activity of cortactin by Src-mediated tyrosine phosphorylation. J. Biol. Chem. 272: 13911-13915.
6. Zhan, X., et al. 1997. Upregulation of cortactin expression during the maturation of megakaryocytes. Blood 89: 457-464.
7. Cheung, J., et al. 2001. Identification of the human cortactin-binding protein-2 gene from the autism candidate region at 7q31. Genomics 78: 7-11.

CHROMOSOMAL LOCATION

Genetic locus: CTTNBP2 (human) mapping to 7q31.2.

PRODUCT

CTTNBP2 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 CTTNBP2 shRNA Plasmid (h): sc-89339-SH and CTTNBP2 shRNA (h) Lentiviral Particles: sc-89339-V as alternate gene silencing products.

For independent verification of CTTNBP2 (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-89339A, sc-89339B and sc-89339C.

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

CTTNBP2 siRNA (h) is recommended for the inhibition of CTTNBP2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CTTNBP2 gene expression knockdown using RT-PCR Primer: CTTNBP2 (h)-PR: sc-89339-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.