SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc42EP2 siRNA (m): sc-142211

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The Power to Question

BACKGROUND

Rho GTPases are molecular switches that regulate many essential cellular processes, including Actin dynamics, cell adhesion, cell-cycle progression and transcription. Cdc42, a small GTPase, regulates Actin polymerization, elongation of cell shape and cell signaling through interactions with many different downstream effector proteins, most of which contain a Cdc42-binding motif known as a CRIB domain. Cdc42EP2 (Cdc42 effector protein 2), also known as BORG1 or CEP2, is a 210 amino acid intracytoplasmic protein that localizes to both the cytoplasm and the cytoskeleton and contains one CRIB domain. Highly expressed in heart and present at lower levels in liver and pancreas, Cdc42EP2 interacts with Cdc42 and is thought to be involved in the organization of the Actin cytoskeleton and may also influence Actin filament assembly and overall cell shape.

REFERENCES

1. Joberty, G., et al. 1999. The Borgs, a new family of Cdc42 and TC10 GTPase-interacting proteins. Mol. Cell. Biol. 19: 6585-6597.
2. Burbelo, P.D., et al. 1999. MSE55, a Cdc42 effector protein, induces long cellular extensions in fibroblasts. Proc. Natl. Acad. Sci. USA 96: 9083-9088.
3. Hirsch, D.S., et al. 2001. A new family of Cdc42 effector proteins, CEPs, function in fibroblast and epithelial cell shape changes. J. Biol. Chem. 276: 875-883.
4. Joberty, G., et al. 2001. Borg proteins control septin organization and are negatively regulated by Cdc42. Nat. Cell Biol. 3: 861-866.
5. Kinoshita, M., et al. 2002. Self- and Actin-templated assembly of Mammalian septins. Dev. Cell 3: 791-802.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606132. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Sheffield, P.J., et al. 2003. Borg/septin interactions and the assembly of mammalian septin heterodimers, trimers, and filaments. J. Biol. Chem. 278: 3483-3488.

CHROMOSOMAL LOCATION

Genetic locus: Cdc42ep2 (mouse) mapping to 19 A.

PRODUCT

Cdc42EP2 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 Cdc42EP2 shRNA Plasmid (m): sc-142211-SH and Cdc42EP2 shRNA (m) Lentiviral Particles: sc-142211-V as alternate gene silencing products.

For independent verification of Cdc42EP2 (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-142211A, sc-142211B and sc-142211C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Cdc42EP2 siRNA (m) is recommended for the inhibition of Cdc42EP2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cdc42EP2 gene expression knockdown using RT-PCR Primer: Cdc42EP2 (m)-PR: sc-142211-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.