SANTA CRUZ BIOTECHNOLOGY, INC.

Dematin siRNA (m): sc-142992

BACKGROUND

Caldesmon, Filamin 1, Nebulin, Villin, Plastin, ADF, Gelsolin, Dematin, and Cofilin are differentially expressed Actin binding proteins. Dematin is a bundling protein of the erythrocyte membrane skeleton. Dematin is localized to the spectrin-Actin junctions, and its Actin-bundling activity is abolished upon phosphorylation by cAMP-dependent protein kinase. It may also play a role in the regulation of cell shape, implying a role in tumorigenesis. Dematin is a trimeric protein containing two identical subunits and a larger subunit. It is localized to the heart, brain, lung, skeletal muscle and kidney. The Dematin gene located on human chromosome 8p21.1, a region frequently deleted in prostate cancer, and mouse chromosome 14.

REFERENCES

1. Rana, A.P., et al. 1993. Cloning of human erythroid dematin reveals another member of the villin family. Proc. Natl. Acad. Sci. USA 90: 6651-6655.
2. Manno, S., et al. 1995. Modulation of erythrocyte membrane mechanical function by β-spectrin phosphorylation and dephosphorylation. J. Biol. Chem. 270: 5659-5665.
3. Peters, L.L., et al. 1995. The gene encoding the erythrocyte membrane skeleton protein dematin (Epb4.9) maps to mouse chromosome 14. Genomics 26: 634-635.
4. Azim, A.C., et al. 1995. Isoform cloning, actin binding, and chromosomal localization of human erythroid dematin, a member of the villin superfamily. J. Biol. Chem. 270: 17407-17413.
5. Azim, A.C., et al. 1996. Human erythrocyte dematin and protein 4.2 (pallidin) are ATP binding proteins. Biochemistry 35: 3001-3006.
6. Kim, A.C., et al. 1998. Alternative splicing and structure of the human erythroid dematin gene. Biochim. Biophys. Acta 1398: 382-386.
7. Lutchman, M., et al. 1999. Loss of heterozygosity on 8p in prostate cancer implicates a role for dematin in tumor progression. Cancer Genet. Cytogenet. 115: 65-69.
8. Khanna, R., et al. 2002. Headpiece domain of dematin is required for the stability of the erythrocyte membrane. Proc. Natl. Acad. Sci. USA 99: 6637-6642.

CHROMOSOMAL LOCATION

Genetic locus: Epb4.9 (mouse) mapping to 14 D2.

PRODUCT

Dematin siRNA (m) is a target-specific 19-25 nt siRNA 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 Dematin shRNA Plasmid (m): sc-142992-SH and Dematin shRNA (m) Lentiviral Particles: sc-142992-V as alternate gene silencing products.

PROTOCOLS

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

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

Dematin siRNA (m) is recommended for the inhibition of Dematin 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 Dematin gene expression knockdown using RT-PCR Primer: Dematin (m)-PR: sc-142992-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.