SANTA CRUZ BIOTECHNOLOGY, INC.

DCNP1 siRNA (h): sc-91973

BACKGROUND

DCNP1 (dendritic cell nuclear protein 1), also known as C5orf20, is a 244 amino acid protein localized predominantly to the perinucleus. DCNP1 is predominantly expressed in dendritic cells, which are potent antigen-presenting cells that activate naive T cells to initiate antigen-specific immune response. The gene that encodes DCNP1 maps to human chromosome 5. An allele of the DCNP1 gene has been found to be associated with an increased prevalence of depression in humans. Human chromosome 5 makes up approximately 6% of the human genome and contains 181 million base pairs, which encode 1,000 genes. Chromosome 5 is associated with Cockayne syndrome through the ERCC8 gene and familial adenomatous polyposis through the adenomatous polyposis coli (APC) tumor suppressor gene. Treacher Collins syndrome is caused by insertions or deletions within the TCOF1 gene and is also associated with chromosome 5. Deletion of 5q or chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Dixon, M.J., et al. 1991. The gene for Treacher Collins syndrome maps to the long arm of chromosome 5. Am. J. Hum. Genet. 49: 17-22.
2. Masuda, M., et al. 2002. Identification and immunocytochemical analysis of DCNP1, a dendritic cell-associated nuclear protein. Biochem. Biophys. Res. Commun. 290: 1022-1029.
3. Willis-Owen, S.A., et al. 2006. DCNP1: a novel candidate gene for major depression. Mol. Psychiatry 11: 121-122.
4. Herry, A., et al. 2007. Redefining monosomy 5 by molecular cytogenetics in 23 patients with MDS/AML. Eur. J. Haematol. 78: 457-467.
5. Kim, Y., et al. 2007. A promoter nucleotide variant of the dendritic cell-specific DCNP1 associates with serum IgE levels specific for dust mite allergens among the Korean asthmatics. Genes Immun. 8: 369-378.
6. Zhou, T., et al. 2010. Dendritic cell nuclear protein-1, a novel depression-related protein, upregulates corticotropin-releasing hormone expression. Brain 133: 3069-3079.

CHROMOSOMAL LOCATION

Genetic locus: C5orf20 (human) mapping to 5q31.1.

PRODUCT

DCNP1 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 DCNP1 shRNA Plasmid (h): sc-91973-SH and DCNP1 shRNA (h) Lentiviral Particles: sc-91973-V as alternate gene silencing products.

For independent verification of DCNP1 (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-91973A, sc-91973B and sc-91973C.

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

DCNP1 siRNA (h) is recommended for the inhibition of DCNP1 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 DCNP1 gene expression knockdown using RT-PCR Primer: DCNP1 (h)-PR: sc-91973-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.