SANTA CRUZ BIOTECHNOLOGY, INC.

DCAF17 siRNA (h): sc-94658

BACKGROUND

DCAF17 (DDB1 and CUL4 associated factor 17) is a multi-pass membrane protein encoded by a gene that exhibits extreme splicing variability. DCAF17 exists as two major isoforms, α and β, that encode proteins of 240 and 520 amino acids respectively, with the α isoform identical to the final 240 amino acids of the β isoform. DCAF17 is ubiquitously expressed, with highest levels in brain, liver and skin. DCAF17 has been found to colocalize with nucleolar phosphoprotein B23 in human embryonic kidney (HEK293) cells. DCAF17 also interacts with DDB1, CUL-4A and CUL-4B, and may function as a substrate receptor for the CUL-4-DDB1 E3 ubiquitin-protein ligase complex. DCAF17 defects are linked to Woodhouse-Sakati syndrome, a rare autosomal recessive disorder characterized by hypogonadism, alopecia, diabetes mellitus, mental retardation and extrapyramidal syndrome.

REFERENCES

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2. Jin, J., et al. 2006. A family of diverse Cul4-Ddb1-interacting proteins includes Cdt2, which is required for S phase destruction of the replication factor Cdt1. Mol. Cell 23: 709-721.
3. Medica, I., et al. 2007. Woodhouse-Sakati syndrome: case report and symptoms review. Genet. Couns. 18: 227-231.
4. Alazami, A.M., et al. 2008. Mutations in C2orf37, encoding a nucleolar protein, cause hypogonadism, alopecia, diabetes mellitus, mental retardation, and extrapyramidal syndrome. Am. J. Hum. Genet. 83: 684-691.
5. Koshy, G., et al. 2008. Three siblings with Woodhouse-Sakati syndrome in an Indian family. Clin. Dysmorphol. 17: 57-60.
6. Schneider, S.A. and Bhatia, K.P. 2008. Dystonia in the Woodhouse Sakati syndrome: a new family and literature review. Mov. Disord. 23: 592-596.
7. de Bruijn, D.R., et al. 2010. Severe progressive autism associated with two *de novo* changes: a 2.6-Mb 2q31.1 deletion and a balanced t(14;21)(q21.1;p11.2) translocation with long-range epigenetic silencing of LRFN5 expression. Mol. Syndromol. 1: 46-57.

CHROMOSOMAL LOCATION

Genetic locus: DCAF17 (human) mapping to 2q31.1.

PRODUCT

DCAF17 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 DCAF17 shRNA Plasmid (h): sc-94658-SH and DCAF17 shRNA (h) Lentiviral Particles: sc-94658-V as alternate gene silencing products.

For independent verification of DCAF17 (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-94658A, sc-94658B and sc-94658C.

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

DCAF17 siRNA (h) is recommended for the inhibition of DCAF17 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.

GENE EXPRESSION MONITORING

DCAF17 (B-11): sc-393815 is recommended as a control antibody for monitoring of DCAF17 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 DCAF17 gene expression knockdown using RT-PCR Primer: DCAF17 (h)-PR: sc-94658-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.