SANTA CRUZ BIOTECHNOLOGY, INC.

CDSN siRNA (h): sc-60347

BACKGROUND

Corneodesmosin (CDSN), also designated S protein, is a secreted protein found in corneodesmosomes, the intercellular structures that are involved in desquamation and the shedding of superficial corneocytes from the skin surface. CDSN expression is only observed in skin and its expression is associated with susceptibility to psoriasis, a heterogeneous inflammatory skin disease. The gene encoding for corneodesmosin, CDSN, is a strong candidate gene for psoriasis susceptibility due to its exclusive expression in differentiating keratinocytes. The CDSN gene contains two exons which encode a presumed 486-amino acid protein, including a putative 16-amino acid signal sequence. The CDSN protein shows homology to Loricrin, Cytokeratin 1 and Cytokeratin 10, which are all major components of the granular layer.

REFERENCES

1. Capon, F., et al. 2004. A synonymous SNP of the corneodesmosin gene leads to increased mRNA stability and demonstrates association with psoriasis across diverse ethnic groups. Hum. Mol. Genet. 13: 2361-2368.
2. Orrù, S., et al. 2004. Mapping of the major psoriasis-susceptibility locus (PSORS1) in a 70-kb interval around the corneodesmosin gene (CDSN). Am. J. Hum. Genet. 76: 164-171.
3. Yang, T., et al. 2004. Epidermal detachment, desmosomal dissociation, and destabilization of corneodesmosin in mice. Genes Dev. 18: 2354-2358.
4. Allen, M.H., et al. 2005. The major psoriasis susceptibility locus PSORS1 is not a risk factor for late-onset psoriasis. J. Invest. Dermatol. 124: 103-106.
5. Ameen, M., et al. 2005. Corneodesmosin (CDSN) gene association with psoriasis vulgaris in Caucasian but not in Japanese populations. Clin. Exp. Dermatol. 30: 414-418.
6. Butt, C., et al. 2005. Corneodesmosin polymorphisms in psoriatic arthritis. Rheumatology 44: 684-685.
7. Dávalos, N.O., et al. 2005. A non-sense mutation in the corneodesmosin gene in a Mexican family with hypotrichosis simplex of the scalp. Br. J. Dermatol. 153: 1216-1219.
8. Martínez-Borra, J., et al. 2005. The region of 150 kb telometic to HLA-C is associated with psoriasis in the Jewish population. J. Invest. Dermatol. 125: 928-932.

CHROMOSOMAL LOCATION

Genetic locus: CDSN (human) mapping to 6p21.33.

PRODUCT

CDSN 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 CDSN shRNA Plasmid (h): sc-60347-SH and CDSN shRNA (h) Lentiviral Particles: sc-60347-V as alternate gene silencing products.

For independent verification of CDSN (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-60347A, sc-60347B and sc-60347C.

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

CDSN siRNA (h) is recommended for the inhibition of CDSN 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

CDSN (C-3): sc-514845 is recommended as a control antibody for monitoring of CDSN 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 CDSN gene expression knockdown using RT-PCR Primer: CDSN (h)-PR: sc-60347-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Peled, A., et al. 2019. Treatment of hereditary hypotrichosis simplex of the scalp with topical gentamicin. Br. J. Dermatol. E-published.

RESEARCH USE

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