

DSC2 siRNA (h): sc-45373

BACKGROUND

Desmogleins are type I membrane proteins that are important for cell adhesion and are expressed in great abundance at the desmosomes, which are adhesive cell junctions. Desmogleins belong to the cadherin family and consist of Dsg1, Dsg2, Dsg3 and Dsg4. The desmosomal cadherin desmocollins DSC1 and DSC3 are also type I membrane proteins that may contribute to epidermal cell positioning by mediating differential adhesiveness between cells that express different isoforms. Alternative splicing gives rise to isoforms A and B of DSC1 and DSC3, which differ in their C-termini. DSC2 exhibits homophilic interactions in solution and forms heterophilic interactions with Dsg2. DSC2 and DSC1 are present at high levels in the suprabasal skin layers. DSC2 protein is predominantly localized to specialized adhesion junctions between the cortex and the medulla.

REFERENCES

1. Syed, S.E., et al. 2002. Molecular interactions between desmosomal cadherins. *Biochem. J.* 362: 317-327.
2. Kljuic, A., et al. 2004. Genomic organization of mouse desmocollin genes reveals evolutionary conservation. *DNA Seq.* 15: 148-152.
3. Duhieu, S., et al. 2005. Desmosome-binding antibody KM48 recognizes an extracellular antigen different from desmosomal cadherins Dsg1-3 and DSC1-3. *Eur. J. Dermatol.* 15: 80-84.
4. Johns, S.A., et al. 2005. FOXN1 is required for tissue assembly and desmosomal cadherin expression in the hair shaft. *Dev. Dyn.* 232: 1062-1068.

CHROMOSOMAL LOCATION

Genetic locus: DSC2 (human) mapping to 18q12.1.

PRODUCT

DSC2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DSC2 shRNA Plasmid (h): sc-45373-SH and DSC2 shRNA (h) Lentiviral Particles: sc-45373-V as alternate gene silencing products.

For independent verification of DSC2 (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-45373A, sc-45373B and sc-45373C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

DSC2 siRNA (h) is recommended for the inhibition of DSC2 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 μ M in 66 μ l. 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

DSC2/3 (7G6): sc-53485 is recommended as a control antibody for monitoring of DSC2 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 DSC2 gene expression knockdown using RT-PCR Primer: DSC2 (h)-PR: sc-45373-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhao, G., et al. 2020. Cleavage of desmosomal cadherins promotes γ -catenin degradation and benefits Wnt signaling in coxsackievirus B3-induced destruction of cardiomyocytes. *Front. Microbiol.* 11: 767.

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.