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# DSC2 shRNA (m) Lentiviral Particles: sc-45374-V

## 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., Trinnaman, B., Martin, S., Major, S., Hutchinson, J., Magee and A.I. 2002. Molecular interactions between desmosomal cadherins. *Biochem. J.* 362: 317-327.
2. Kljuic, A., Bauer, R.C. and Christiano, A.M. 2004. Genomic organization of mouse desmocollin genes reveals evolutionary conservation. *DNA Seq.* 15: 148-152.
3. Duhieu, S., Laperdrix, C., Hashimoto, T., Le Bitoux, M.A. and Haftek, M. 2005. Desmosome-binding antibody KM48 recognises an extracellular antigen different from desmosomal cadherins *dsg1-3* and DSC1-3. *Eur. J. Dermatol.* 15: 80-84.
4. Johns, S.A., Soullier, S., Rashbass, P. and Cunliffe, V.T. 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* (mouse) mapping to 18 A2.

## PRODUCT

DSC2 shRNA (m) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see DSC2 siRNA (m): sc-45374 and DSC2 shRNA Plasmid (m): sc-45374-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^\circ$  C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^\circ$  C for up to one week. Avoid repeated freeze thaw cycles.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

DSC2 shRNA (m) Lentiviral Particles is recommended for the inhibition of DSC2 expression in mouse cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

DSC2 (D-13): sc-34311 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DSC2 gene expression knockdown using RT-PCR Primer: DSC2 (m)-PR: sc-45374-PR (20  $\mu$ l). Annealing temperature for the primers should be  $55-60^\circ$  C and the extension temperature should be  $68-72^\circ$  C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.