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- Mindermengenzuschlag
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dsg4 shRNA (h) Lentiviral Particles: sc-44763-V

BACKGROUND

Desmoglein proteins are cadherin-type cell adhesion molecules. Desmoglein 4 (dsg4) shares 41% identity with human desmoglein 1, 37% with human desmoglein 2 and 50% with human desmoglein 3. A type I membrane protein of the cadherin protein family, dsg4 is expressed in salivary gland, suprabasal epidermis, hair follicle, testis, prostate and skin. In the hair follicle, dsg4 is an important mediator of keratinocyte cell adhesion and coordinates the transition from proliferation to differentiation. The human DSG4 gene is composed of 16 exons spanning approximately 37 kb of 18q12 and is situated between DSG1 and DSG3.

REFERENCES

- Whittock, N.V., et al. 2003. Genetic evidence for a novel human desmosomal cadherin, desmoglein 4. *J. Invest. Dermatol.* 120:523-530.
- Kljuic, A., et al. 2003. Desmoglein 4 in hair follicle differentiation and epidermal adhesion: evidence from inherited hypotrichosis and acquired pemphigus vulgaris. *Cell* 113: 249-260.
- Meyer, B., et al. 2004. A spontaneous mutation in the desmoglein 4 gene underlies hypotrichosis in a new lanceolate hair rat model. *Differentiation* 72: 541-547.
- Nagasaka, T., et al. 2004. Defining the pathogenic involvement of desmoglein 4 in pemphigus and staphylococcal scalded skin syndrome. *J. Clin. Invest.* 114: 1484-1492.
- <http://harvester.embl.de/harvester/Q6Y9/Q6Y9L9.htm>

CHROMOSOMAL LOCATION

Genetic locus: DSG4 (human) mapping to 18q12.1.

PRODUCT

dsg4 shRNA (h) 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 μ l frozen stock containing 1.0×10^6 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 dsg4 siRNA (h): sc-44763 and dsg4 shRNA Plasmid (h): sc-44763-SH as alternate gene silencing products.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

dsg4 shRNA (h) Lentiviral Particles is recommended for the inhibition of dsg4 expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 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

dsg4 (C-17): sc-28067 is recommended as a control antibody for monitoring of dsg4 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 dsg4 gene expression knockdown using RT-PCR Primer: dsg4 (h)-PR: sc-44763-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° 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.

STORAGE

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