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dsg4 siRNA (h): sc-44763

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 18q12.1 and is situated between DSG1 and DSG3.

REFERENCES

1. 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.
2. Whittock, N.V., et al. 2003. Genetic evidence for a novel human desmosomal cadherin, desmoglein 4. *J. Invest. Dermatol.* 120: 523-530.
3. 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.
4. 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.

CHROMOSOMAL LOCATION

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

PRODUCT

dsg4 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 dsg4 shRNA Plasmid (h): sc-44763-SH and dsg4 shRNA (h) Lentiviral Particles: sc-44763-V as alternate gene silencing products.

For independent verification of dsg4 (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-44763A, sc-44763B and sc-44763C.

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

dsg4 siRNA (h) is recommended for the inhibition of dsg4 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

dsg4 (6E7): sc-517109 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 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 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 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ 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.