

dsg1 (H-290): sc-20114

BACKGROUND

Desmogleins (dsgs) 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. The dsg proteins belong to the cadherin family and consist of dsg1, dsg2 and dsg3. Calcium binds to the putative calcium binding sites at the extracellular N-terminal domain of dsg1, which has cadherin-like repeats. Unlike normal human keratinocytes, the squamous cell carcinoma cells exhibit diminished or unusual expression of dsg3 and dsg1, which bear pemphigus vulgaris and pemphigus foliaceus antigens, respectively. Cultured normal human keratinocytes express dsg1 and dsg3 mRNA, with or without dsg2 mRNA, which indicates that desmoglein isoforms exhibit abnormal expression and may be related to tumor cell kinetics, such as cell invasion and metastasis. Pemphigus is an autoimmune disease of skin adhesion associated with auto-antibodies against a number of keratinocyte antigens, such as the adhesion molecules dsg1 and 3 and acetylcholine receptors.

CHROMOSOMAL LOCATION

Genetic locus: DSG1 (human) mapping to 18q12.1; Dsg1a/Dsg1b/Dsg1c (mouse) mapping to 18 A2.

SOURCE

dsg1 (H-290) is a rabbit polyclonal antibody raised against amino acids 760-1049 mapping near the C-terminus of dsg1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

dsg1 (H-290) is recommended for detection of dsg1 of human and rat origin and dsg1 α , β and γ of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for dsg1 siRNA (h): sc-35224, dsg1 siRNA (m): sc-35225, dsg1 shRNA Plasmid (h): sc-35224-SH, dsg1 shRNA Plasmid (m): sc-35225-SH, dsg1 shRNA (h) Lentiviral Particles: sc-35224-V and dsg1 shRNA (m) Lentiviral Particles: sc-35225-V.

Molecular Weight of dsg1 precursor: 150 kDa

Molecular Weight of mature dsg1: 160 kDa.

Positive Controls: F9 cell lysate: sc-2245, A-375 cell lysate: sc-3811 or mouse heart extract: sc-2254.

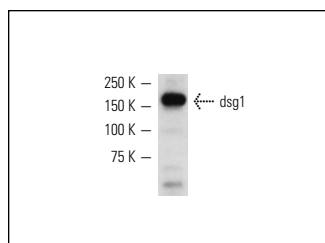
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

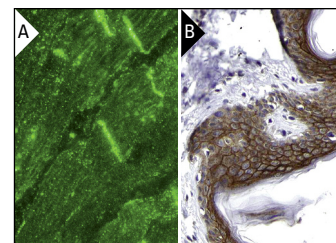
RESEARCH USE

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

DATA



dsg1 (H-290): sc-20114. Western blot analysis of dsg1 expression in A-375 whole cell lysate.



dsg1 (H-290): sc-20114. Immunofluorescence staining of normal mouse heart frozen section showing cell junction staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing membrane staining of epidermal and adnexal cells magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

1. Davis, M.A., et al. 2006. Blocked acinar development, E-cadherin reduction and intraepithelial neoplasia upon ablation of p120-catenin in the mouse salivary gland. *Dev. Cell* 10: 21-31.
2. Cirillo, N., et al. 2006. Serum from *Pemphigus vulgaris* reduces desmoglein 3 half-life and perturbs its *de novo* assembly to desmosomal sites in cultured keratinocytes. *FEBS Lett.* 580: 3276-3281.
3. Lanza, A., et al. 2007. Caspase-dependent cleavage of desmoglein 1 depends on the apoptotic stimulus. *Br. J. Dermatol.* 156: 400-402.
4. Cirillo, N., et al. 2007. *Pemphigus vulgaris* immunoglobulin G can recognize a 130 000 MW antigen other than desmoglein 3 on peripheral blood mononuclear cell surface. *Immunology* 121: 377-382.
5. Leclerc, E.A., et al. 2009. Corneodesmosin gene ablation induces lethal skin-barrier disruption and hair-follicle degeneration related to desmosome dysfunction. *J. Cell Sci.* 122: 2699-2709.
6. Cirillo, N., et al. 2010. Induction of hyper-adhesion attenuates autoimmune-induced keratinocyte cell-cell detachment and processing of adhesion molecules via mechanisms that involve PKC. *Exp. Cell Res.* 316: 580-592.
7. Smalley-Freed, W.G., et al. 2010. p120-catenin is essential for maintenance of barrier function and intestinal homeostasis in mice. *J. Clin. Invest.* 120: 1824-1835.
8. Yanagi, T., et al. 2010. Self-improvement of keratinocyte differentiation defects during skin maturation in ABCA12-deficient harlequin ichthyosis model mice. *Am. J. Pathol.* 177: 106-118.

MONOS
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Try **dsg1 (B-11): sc-137164** or **dsg1 (27B2): sc-59904**, our highly recommended monoclonal alternatives to dsg1 (H-290).