

# dsg1 (A-16): sc-14855

## 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.

## REFERENCES

1. Amagai, M., et al. 1991. Autoantibodies against a novel epithelial cadherin in pemphigus vulgaris, a disease of cell adhesion. *Cell* 67: 869-877.
2. Niles, L.A., et al. 1991. Structural analysis and expression of human desmoglein: a cadherin-like component of the desmosome. *J. Cell Sci.* 99: 809-821.
3. Wheeler, G.N., et al. 1991. Desmosomal glycoprotein DGI, a component of intercellular desmosome junctions, is related to the cadherin family of cell adhesion molecules. *Proc. Natl. Acad. Sci. USA* 88: 4796-4800.
4. Schafer, S., et al. 1994. Identification of the ubiquitous human desmoglein, dsg2, and the expression catalogue of the desmoglein subfamily of desmosomal cadherins. *Exp. Cell Res.* 211: 391-399.
5. Iwatsuki, K., et al. 1995. Differences in the expression of pemphigus antigens during epidermal differentiation. *Br. J. Dermatol.* 133: 209-216.
6. Harada, H., et al. 1996. Abnormal desmoglein expression by squamous cell carcinoma cells. *Acta Derm. Venereol.* 76: 417-420.
7. Nguyen, V.T., et al. 2000. Antibodies against keratinocyte antigens other than desmogleins 1 and 3 can induce pemphigus vulgaris-like lesions. *J. Clin. Invest.* 106: 1467-1479.
8. Wahl, J.K. 2002. Generation of monoclonal antibodies specific for desmoglein family members. *Hybrid. Hybridomics* 21: 37-44.

## CHROMOSOMAL LOCATION

Genetic locus: DSG1 (human) mapping to 18q12.1.

## SOURCE

dsg1 (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of dsg1 of human origin.

## STORAGE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-14855 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

dsg1 (A-16) is recommended for detection of dsg1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

dsg1 (A-16) is also recommended for detection of dsg1 in additional species, including equine and canine.

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

Molecular Weight of dsg1 precursor: 150 kDa.

Molecular Weight of mature dsg1: 160 kDa.

Positive Controls: A-375 cell lysate: sc-3811.

## RECOMMENDED SECONDARY REAGENTS

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.

## RESEARCH USE

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

## PROTOCOLS

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

**MONOS**  
Satisfaction  
Guaranteed

Try **dsg1 (B-11): sc-137164** or **dsg1 (27B2): sc-59904**, our highly recommended monoclonal alternatives to dsg1 (A-16).