

dsg3 (H-145): sc-20116

BACKGROUND

Pemphigus is an autoimmune disease of skin adhesion associated with auto-antibodies against a number of keratinocyte antigens, such as the adhesion molecules desmoglein (dsg) 1 and 3 and acetylcholine receptors. Desmogleins, type I membrane proteins, 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 and dsg3. Calcium binds to the putative calcium-binding sites at the extracellular N-terminal domain, 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. Several carcinoma cell lines constantly express dsg2 and dsg3 mRNA, whereas cultured normal human keratinocytes always express dsg1 and dsg3 mRNA, with or without dsg2 mRNA. This expression pattern indicates that desmoglein isoforms exhibit abnormal expression and may be related to tumor cell kinetics, such as cell invasion and metastasis. dsg2 is the fundamental dsg common to all desmosome-possessing tissues and is the largest desmoglein in the family.

CHROMOSOMAL LOCATION

Genetic locus: DSG3 (human) mapping to 18q12.1.

SOURCE

dsg3 (H-145) is a rabbit polyclonal antibody raised against amino acids 855-999 mapping at the C-terminus of dsg3 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

dsg3 (H-145) is recommended for detection of desmoglein 3 of human 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 dsg3 siRNA (h): sc-43115, dsg3 shRNA Plasmid (h): sc-43115-SH and dsg3 shRNA (h) Lentiviral Particles: sc-43115-V.

Molecular Weight of intact dsg3: 130 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U-698-M whole cell lysate: sc-364799 or SCC-4 whole cell lysate: sc-364363.

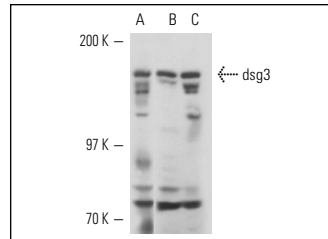
STORAGE

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

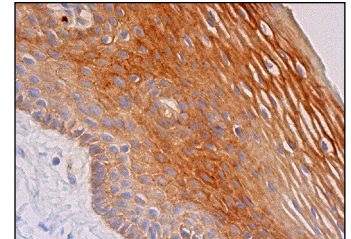
RESEARCH USE

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

DATA



dsg3 (H-145): sc-20116. Western blot analysis of dsg3 expression in SCC-4 (A), U-698-M (B) and HeLa (C) whole cell lysates.



dsg3 (H-145): sc-20116. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- 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.
- Cirillo, N., et al. 2009. High-dose pemphigus antibodies against linear epitopes of desmoglein 3 (dsg3) can induce acantholysis and depletion of dsg3 from keratinocytes. Immunol. Lett. 122: 208-213.
- Spindler, V., et al. 2013. Peptide-mediated desmoglein 3 crosslinking prevents pemphigus vulgaris autoantibody-induced skin blistering. J. Clin. Invest. 123: 800-811.
- Hartlieb, E., et al. 2013. Desmoglein 2 is less important than desmoglein 3 for keratinocyte cohesion. PLoS ONE 8: e53739.
- Rötzer, V., et al. 2014. Adducin is required for desmosomal cohesion in keratinocytes. J. Biol. Chem. 289: 14925-14940.
- Hartlieb, E., et al. 2014. Desmoglein 2 compensates for desmoglein 3 but does not control cell adhesion via regulation of p38 mitogen-activated protein kinase in keratinocytes. J. Biol. Chem. 289: 17043-17053.
- Rötzer, V., et al. 2015. E-cadherin and Src associate with extradesmosomal Dsg3 and modulate desmosome assembly and adhesion. Cell. Mol. Life Sci. 72: 4885-4897.
- Vielmuth, F., et al. 2015. Loss of desmoglein binding is not sufficient for keratinocyte dissociation in pemphigus. J. Invest. Dermatol. 135: 3068-3077.


 MONOS
Satisfaction
Guaranteed

Try **dsg3 (5H10): sc-23912** or **dsg3 (3G133): sc-59776**, our highly recommended monoclonal alternatives to dsg3 (H-145).