

dsg1 (B-11): sc-137164



The Power to Question

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 (B-11) is a mouse monoclonal antibody raised against amino acids 760-1049 mapping near the C-terminus of dsg1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

dsg1 (B-11) is available conjugated to agarose (sc-137164 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137164 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137164 PE), fluorescein (sc-137164 FITC), Alexa Fluor® 488 (sc-137164 AF488), Alexa Fluor® 546 (sc-137164 AF546), Alexa Fluor® 594 (sc-137164 AF594) or Alexa Fluor® 647 (sc-137164 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137164 AF680) or Alexa Fluor® 790 (sc-137164 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

dsg1 (B-11) is recommended for detection of dsg1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 shRNA Plasmid (h): sc-35224-SH and dsg1 shRNA (h) Lentiviral Particles: sc-35224-V.

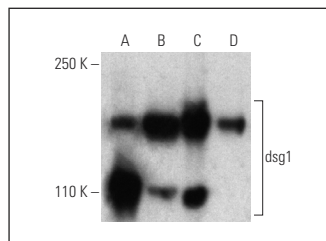
Molecular Weight of dsg1 precursor: 150 kDa.

Molecular Weight of mature dsg1: 160 kDa.

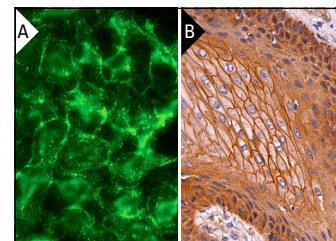
STORAGE

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

DATA



dsg1 (B-11) HRP: sc-137164 HRP. Direct western blot analysis of dsg1 expression in HeLa (A), A-375 (B) and F9 (C) whole cell lysates and human bladder tissue extract (D).



dsg1 (B-11): sc-137164. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing membrane and cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Wang, L., et al. 2018. Conditional reprogrammed human limbal epithelial cells represent a novel *in vitro* cell model for drug responses. *Biochem. Biophys. Res. Commun.* 499: 735-742.
- Beckert, B., et al. 2019. Immortalized human hTert/KER-CT keratinocytes a model system for research on desmosomal adhesion and pathogenesis of pemphigus vulgaris. *Int. J. Mol. Sci.* 20: 3113.
- Simpson, C.L., et al. 2021. NIX initiates mitochondrial fragmentation via DRP1 to drive epidermal differentiation. *Cell Rep.* 34: 108689.
- Malovitski, K., et al. 2022. Loss-of-function variants in KLF4 underlie autosomal dominant palmoplantar keratoderma. *Genet. Med.* 24: 1085-1095.
- Zakrzewicz, A., et al. 2022. Stabilization of keratinocyte monolayer integrity in the presence of anti-desmoglein-3 antibodies through FcRn blockade with efgartigimod: novel treatment paradigm for pemphigus? *Cells* 11: 942.
- Alshami, M.L., et al. 2022. Desmogleins 1, 3, and E-cadherin immunohistochemical expression within mucocutaneous pemphigus vulgaris. *Pan Afr. Med. J.* 42: 186.
- Stabell, A.R., et al. 2023. Single-cell transcriptomics of human-skin-equivalent organoids. *Cell Rep.* 42: 112511.
- Simpson, C.L., et al. 2024. ERK hyperactivation in epidermal keratinocytes impairs intercellular adhesion and drives Grover disease pathology. *JCI Insight* 9: e182983.
- Sasaki, M., et al. 2024. Lysyl oxidase regulates epithelial differentiation and barrier integrity in eosinophilic esophagitis. *Cell. Mol. Gastroenterol. Hepatol.* 17: 923-937.

RESEARCH USE

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

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