

dsg2 (F-8): sc-365856



The Power to Question

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 un-usual 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.

REFERENCES

- Amagai, M., et al. 1991. Autoantibodies against a novel epithelial cadherin in pemphigus vulgaris, a disease of cell adhesion. *Cell* 67: 869-877.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: DSG2 (human) mapping to 18q12.1; Dsg2 (mouse) mapping to 18 A2.

SOURCE

dsg2 (F-8) is a mouse monoclonal antibody raised against amino acids 816-960 of dsg2 (desmoglein 2) of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

dsg2 (F-8) is available conjugated to agarose (sc-365856 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365856 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365856 PE), fluorescein (sc-365856 FITC), Alexa Fluor® 488 (sc-365856 AF488), Alexa Fluor® 546 (sc-365856 AF546), Alexa Fluor® 594 (sc-365856 AF594) or Alexa Fluor® 647 (sc-365856 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365856 AF680) or Alexa Fluor® 790 (sc-365856 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

dsg2 (F-8) is recommended for detection of dsg2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for dsg2 siRNA (h): sc-35226, dsg2 siRNA (m): sc-35227, dsg2 siRNA (r): sc-270373, dsg2 shRNA Plasmid (h): sc-35226-SH, dsg2 shRNA Plasmid (m): sc-35227-SH, dsg2 shRNA Plasmid (r): sc-270373-SH, dsg2 shRNA (h) Lentiviral Particles: sc-35226-V, dsg2 shRNA (m) Lentiviral Particles: sc-35227-V and dsg2 shRNA (r) Lentiviral Particles: sc-270373-V.

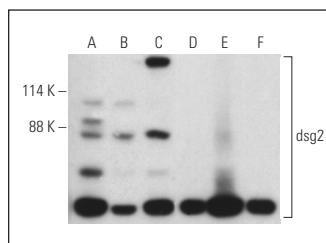
Molecular Weight of dsg2: 59-150 kDa.

Positive Controls: ECV304 cell lysate: sc-2269, HeLa whole cell lysate: sc-2200 or Sol8 cell lysate: sc-2249.

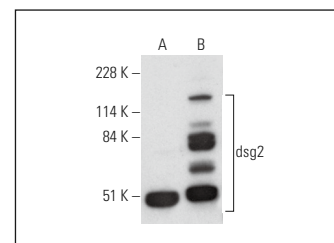
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



dsg2 (F-8): sc-365856. Western blot analysis of dsg2 expression in ECV304 (A), A549 (B), HeLa (C), NIH/3T3 (D), Sol8 (E) and PC-12 (F) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



dsg2 (F-8): sc-365856. Western blot analysis of dsg2 expression in ECV304 (A) and HeLa (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Bernegger, S., et al. 2021. Identification of Desmoglein-2 as a novel target of *Helicobacter pylori* HtrA in epithelial cells. *Cell Commun. Signal.* 19: 108.

STORAGE

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