

# DSC1 (A-4): sc-398590

## BACKGROUND

The desmosomal cadherin desmocollin DSC1 is expressed in upper epidermis where strong adhesion is required. DSC1 is a type I membrane protein required for strong adhesion and barrier maintenance in epidermis and contributes to epidermal differentiation. DSC3 is also a type I membrane protein and is expressed in all living epidermal layers as well as in glandular ducts, basal matrix cells and the outer root sheath of hair follicles. DSC3, but not DSC1, is also present in desmosomes of the basal and suprabasal cell layers of other stratified epithelia such as cervix, tongue and esophagus as well as in cells of the basal layer of bladder urothelium and the complex epithelium of trachea. The DSC1 gene comprises 17 exons spanning approximately 33 kb on 18q12.1, and the DSC3 gene comprises 17 exons spanning approximately 49 kb on 18q12.1. Alternative splicing gives rise to two DSC1 and DSC3 isoforms, designated 1A and 1B, and 3A and 3B, respectively, which differ in their carboxy termini. DSC1 and DSC3 may contribute to epidermal cell positioning by mediating differential adhesiveness between cells that express different isoforms.

## REFERENCES

- Nuber, U.A., et al. 1996. Patterns of desmocollin synthesis in human epithelia: immunolocalization of desmocollins 1 and 3 in special epithelia and in cultured cells. *Eur. J. Cell. Biol.* 71: 1-13.
- Whitlock, N.V., et al. 2000. Genomic organization and amplification of the human desmosomal cadherin genes DSC1 and DSC3, encoding desmocollin types 1 and 3. *Biochem. Biophys. Res. Commun.* 276: 454-460.

## CHROMOSOMAL LOCATION

Genetic locus: DSC1 (human) mapping to 18q12.1; Dsc1 (mouse) mapping to 18 A2.

## SOURCE

DSC1 (A-4) is a mouse monoclonal antibody raised against amino acids 311-350 mapping within an internal region of DSC1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DSC1 (A-4) is available conjugated to agarose (sc-398590 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398590 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398590 PE), fluorescein (sc-398590 FITC), Alexa Fluor® 488 (sc-398590 AF488), Alexa Fluor® 546 (sc-398590 AF546), Alexa Fluor® 594 (sc-398590 AF594) or Alexa Fluor® 647 (sc-398590 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398590 AF680) or Alexa Fluor® 790 (sc-398590 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

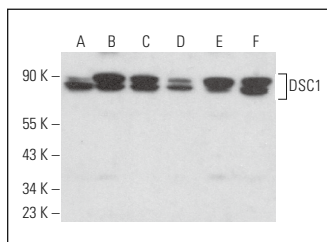
## APPLICATIONS

DSC1 (A-4) is recommended for detection of DSC1 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).

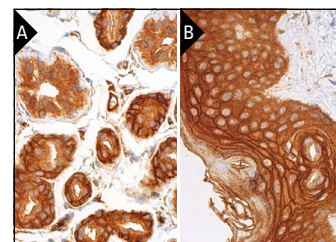
Suitable for use as control antibody for DSC1 siRNA (h): sc-43733, DSC1 siRNA (m): sc-43108, DSC1 shRNA Plasmid (h): sc-43733-SH, DSC1 shRNA Plasmid (m): sc-43108-SH, DSC1 shRNA (h) Lentiviral Particles: sc-43733-V and DSC1 shRNA (m) Lentiviral Particles: sc-43108-V.

Positive Controls: A-375 cell lysate: sc-3811, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

## DATA



DSC1 (A-4): sc-398590. Western blot analysis of DSC1 expression in A-375 (A), A-431 (B), HeLa (C), SK-N-MC (D), F9 (E) and NIH/3T3 (F) whole cell lysates.



DSC1 (A-4): sc-398590. Immunoperoxidase staining of formalin fixed, paraffin-embedded human sweat gland tissue showing membrane and cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing membrane and cytoplasmic staining of keratinocytes and cytoplasmic staining of Langerhans cells and melanocytes (B).

## SELECT PRODUCT CITATIONS

- Hassan, A., et al. 2019. Adolescent idiopathic scoliosis associated POC5 mutation impairs cell cycle, cilia length and centrosome protein interactions. *PLoS ONE* 14: e0213269.
- Zhang, Z., et al. 2021. CircRAB11FIP1 promoted autophagy flux of ovarian cancer through DSC1 and miR-129. *Cell Death Dis.* 12: 219.
- Li, Z., et al. 2022. Hotspot ESR1 mutations are multimodal and contextual modulators of breast cancer metastasis. *Cancer Res.* 82: 1321-1339.
- Kohsaka, S., et al. 2022. Identification of novel prognostic and predictive biomarkers in salivary duct carcinoma via comprehensive molecular profiling. *NPJ Precis. Oncol.* 6: 82.
- Hsueh, Y.C., et al. 2022. A keratinocyte-tethered biologic enables location-precise treatment in mouse vitiligo. *J. Invest. Dermatol.* 142: 3294-3303.

## RESEARCH USE

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