

DSC2/3 (7G6): sc-53485



The Power to Question

BACKGROUND

Desmogleins 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. Desmogleins belong to the cadherin family and consist of dsg1, dsg2, dsg3 and dsg4. The desmosomal cadherin desmocollins DSC1 and DSC3 are also type I membrane proteins that may contribute to epidermal cell positioning by mediating differential adhesiveness between cells that express different isoforms. Alternative splicing gives rise to isoforms A and B of DSC1 and DSC3, which differ in their C-termini. DSC2 exhibits homophilic interactions in solution, and forms heterophilic interactions with dsg2. DSC2 and DSC1 are present at high levels in the suprabasal skin layers. DSC2 protein is predominantly localized to specialized adhesion junctions between the cortex and the medulla. DSC3 is expressed in all living epidermal layers as well as in glandular ducts and in 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.

REFERENCES

1. 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.
2. Whittock, 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: DSC2/DSC3 (human) mapping to 18q12.1; Dsc2/Dsc3 (mouse) mapping to 18 A2.

SOURCE

DSC2/3 (7G6) is a mouse monoclonal antibody raised against the extracellular domain of DSC2 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.

DSC2/3 (7G6) is available conjugated to agarose (sc-53485 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53485 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53485 PE), fluorescein (sc-53485 FITC), Alexa Fluor® 488 (sc-53485 AF488), Alexa Fluor® 546 (sc-53485 AF546), Alexa Fluor® 594 (sc-53485 AF594) or Alexa Fluor® 647 (sc-53485 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53485 AF680) or Alexa Fluor® 790 (sc-53485 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

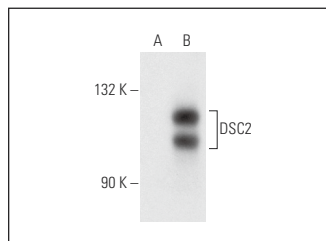
DSC2/3 (7G6) is recommended for detection of DSC2 and DSC3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of DSC2: 110 kDa.

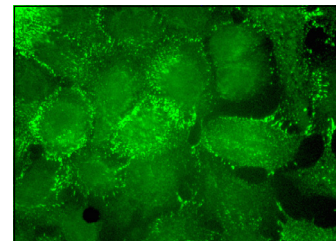
Molecular Weight of DSC3: 100 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or DSC2 (m): 293T Lysate: sc-119847.

DATA



DSC2/3 (7G6): sc-53485. Western blot analysis of DSC2 expression in non-transfected: sc-117752 (A) and mouse DSC2 transfected: sc-119847 (B) 293T whole cell lysates.



DSC2/3 (7G6): sc-53485. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Koyama-Nasu, R., et al. 2013. The cancer stem cell marker CD133 interacts with plakoglobin and controls desmoglein-2 protein levels. *PLoS ONE* 8: e53710.
2. Muroyama, A. and Lechler, T. 2017. A transgenic toolkit for visualizing and perturbing microtubules reveals unexpected functions in the epidermis. *Elife* 6: e29834.
3. Courier, E., et al. 2020. *Ex vivo* model of herpes simplex virus type I dendritic and geographic keratitis using a corneal active storage machine. *PLoS ONE* 15: e0236183.
4. Sun, C., et al. 2022. DSC2 suppresses the metastasis of gastric cancer through inhibiting the BRD4/snail signaling pathway and the transcriptional activity of β -catenin. *Oxid. Med. Cell. Longev.* 2022: 4813571.
5. Hsueh, Y.C., et al. 2022. A keratinocyte-tethered biologic enables location-precise treatment in mouse vitiligo. *J. Invest. Dermatol.* 142: 3294-3303.
6. Sun, C., et al. 2023. DSC2 suppresses the growth of gastric cancer through the inhibition of nuclear translocation of γ -catenin and PTEN/PI3K/Akt signaling pathway. *Aging* 15: 6380-6399.

STORAGE

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