SANTA CRUZ BIOTECHNOLOGY, INC.

DSC2/3 (3G130): sc-70994

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.
3. Syed, S.E., et al. 2002. Molecular interactions between desmosomal cadherins. Biochem. J. 362: 317-327.
4. Kljuic, A., et al. 2004. Genomic organization of mouse desmocollin genes reveals evolutionary conservation. DNA Seq. 15: 148-152.
5. Duhieu, S., et al. 2005. Desmosome-binding antibody KM48 recognises an extracellular antigen different from desmosomal cadherins Dsg1-3 and DSC1-3. Eur. J. Dermatol. 15: 80-84.

CHROMOSOMAL LOCATION

Genetic locus: DSC2/DSC3 (human) mapping to 18q12.1; Dsc2/Dsc3 (mouse) mapping to 18 A2.

SOURCE

DSC2/3 (3G130) is a mouse monoclonal antibody raised against the extracellular domain of DSC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

DSC2/3 (3G130) 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.

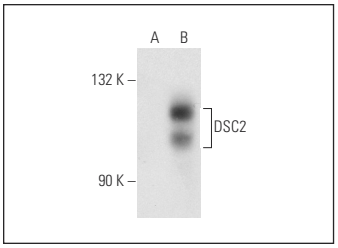
Molecular Weight of DSC3: 100 kDa.

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

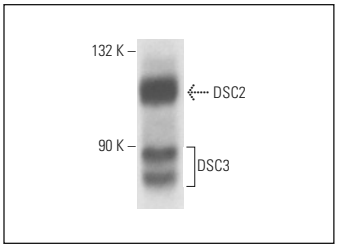
RECOMMENDED SUPPORT REAGENTS

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



DSC2/3 (3G130): sc-70994. 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 (3G130): sc-70994. Western blot analysis of DSC2 and DSC3 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Chen, S.N., et al. 2014. The Hippo pathway is activated and is a causal mechanism for adipogenesis in arrhythmogenic cardiomyopathy. Circ. Res. 114: 454-468.
2. Ren, Y.S., et al. 2020. Application quantitative proteomics approach to identify differentially expressed proteins associated with cardiac protection mediated by cycloastragenol in acute myocardial infarction rats. J. Proteomics 222: 103691.

RESEARCH USE

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