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DSG3 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1926a

Product Information

Application	WB, IHC, FC, E
Primary Accession	P32926
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	6G2C11
Isotype	IgG1
Calculated MW	107533
Description	Desmosomes are cell-cell junctions between epithelial, myocardial, and certain other cell types. Desmoglein 3 is a calcium-binding transmembrane glycoprotein component of desmosomes in vertebrate epithelial cells. Currently, three desmoglein subfamily members have been identified and all are members of the cadherin cell adhesion molecule superfamily. These desmoglein gene family members are located in a cluster on chromosome 18. This protein has been identified as the autoantigen of the autoimmune skin blistering disease pemphigus vulgaris.
Immunogen	Purified recombinant fragment of human DSG3 (AA: 55-159) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	1830
Other Names	Desmoglein-3, 130 kDa pemphigus vulgaris antigen, PVA, Cadherin family member 6, DSG3, CDHF6
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DSG3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DSG3 (HGNC:3050)

Synonyms	CDHF6
Function	A component of desmosome cell-cell junctions which are required for positive regulation of cellular adhesion (PubMed:31835537). Required for adherens and desmosome junction assembly in response to mechanical force in keratinocytes (PubMed:31835537). Required for desmosome-mediated cell-cell adhesion of cells surrounding the telogen hair club and the basal layer of the outer root sheath epithelium, consequently is essential for the anchoring of telogen hairs in the hair follicle (PubMed:9701552). Required for the maintenance of the epithelial barrier via promoting desmosome-mediated intercellular attachment of suprabasal epithelium to basal cells (By similarity). May play a role in the protein stability of the desmosome plaque components DSP, JUP, PKP1, PKP2 and PKP3 (PubMed:22294297). Required for YAP1 localization at the plasma membrane in keratinocytes in response to mechanical strain, via the formation of an interaction complex composed of DSG3, PKP1 and YWHAG (PubMed:31835537). May also be involved in the positive regulation of YAP1 target gene transcription and as a result cell proliferation (PubMed:31835537). Positively regulates cellular contractility and cell junction formation via organization of cortical F-actin bundles and anchoring of actin to tight junctions, in conjunction with RAC1 (PubMed:22796473). The cytoplasmic pool of DSG3 is required for the localization of CDH1 and CTNNB1 at developing adherens junctions, potentially via modulation of SRC activity (PubMed:22294297). Inhibits keratinocyte migration via suppression of p38MAPK signaling, may therefore play a role in moderating wound healing (PubMed:26763450).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell junction, desmosome {ECO:0000250|UniProtKB:O35902}. Cytoplasm. Cell junction, tight junction. Cell junction
Tissue Location	Expressed throughout the basal and spinous layer of the epidermis with weak expression in the granular layer (at protein level) (PubMed:19717567). Expressed in skin and mucosa (at protein level) (PubMed:22294297, PubMed:30528827). Expressed throughout the esophageal mucosa (at protein level) (PubMed:24220297). Expressed in the basal layer of the outer root sheath of the telogen hair club, specifically at the cell membrane between the apex of the cells and the surrounding hair club (at protein level) (PubMed:9701552). Expression is less abundant between the lateral margins of the outer root sheath basal cells (at protein level) (PubMed:9701552). Also expressed in the tongue, tonsil and esophagus (PubMed:16740002)

Background

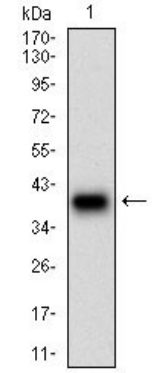
The protein encoded by this gene is found in the nucleus and is a cofactor of DNA polymerase delta. The encoded protein acts as a homotrimer and helps increase the processivity of leading strand synthesis during DNA replication. In response to DNA damage, this protein is ubiquitinated and is involved in the RAD6-dependent DNA repair pathway. Two transcript variants encoding the same protein have been found for this gene. Pseudogenes of this gene have been described on chromosome 4 and on the X chromosome. ; ;

References

1. J Dermatol Sci. 2012 Feb;65(2):102-9. 2. Am J Pathol. 2009 May;174(5):1629-37.

Images

Figure 1: Western blot analysis using DSG3 mAb against



human DSG3 (AA: 55-159) recombinant protein. (Expected MW is 37.5 kDa)

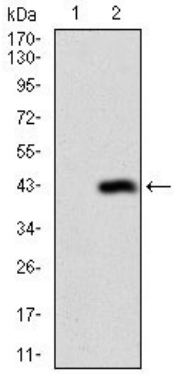


Figure 2: Western blot analysis using DSG3 mAb against HEK293 (1) and DSG3 (AA: 55-159)-hIgGFc transfected HEK293 (2) cell lysate.

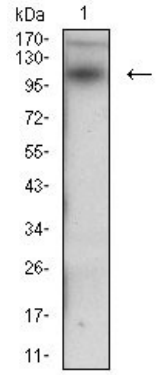


Figure 3: Western blot analysis using DSG3 mouse mAb against A431 cell lysate.

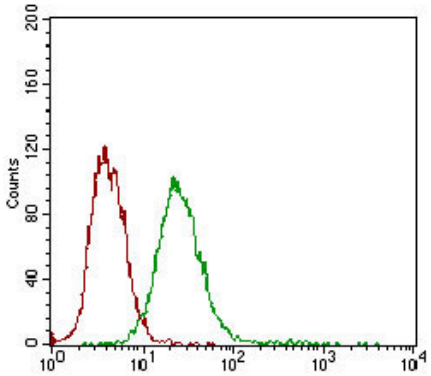


Figure 4: Flow cytometric analysis of A431 cells using DSG3 mouse mAb (green) and negative control (red).

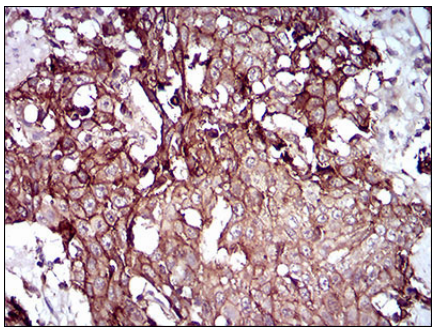
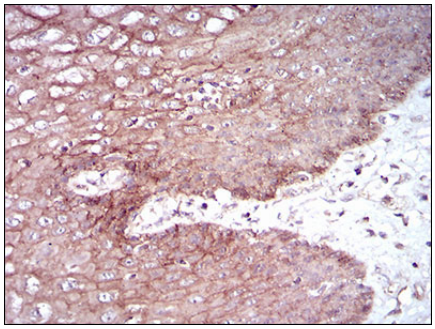


Figure 5: Immunohistochemical analysis of paraffin-embedded esophageal cancer tissues using DSG3 mouse mAb with DAB staining.

Figure 6: Immunohistochemical analysis of paraffin-embedded esophageal tissues using DSG3 mouse mAb with DAB staining.



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