DSG3 Antibody for IHC / Desmoglein 3 Antibody [clone MSVA-543M] (V6069)

Catalog No.	Formulation	Size
V6069-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6069-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	MSVA-543M
UniProt	P32926
Localization	Cell junction, Cell membrane, Desmosome
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This DSG3/Desmoglein 3 antibody is available for research use only.



DSG3 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Desmoglein 3 DSG3 in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using mouse monoclonal antibody clone MSVA-543M. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates strong membranous localization in stratified squamous epithelia, including skin, esophagus, and mucosal tissues, consistent with desmosomal cell-cell junction distribution, while most non-squamous and non-epithelial tissues remain largely negative. Within tumor tissue microarrays, membranous staining is preserved in squamous cell carcinomas, supporting retained epithelial differentiation, whereas most non-squamous malignancies show minimal to no staining. Evaluation across large TMA panels enables direct comparison of DSG3 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported Desmoglein 3 expression profiles in the Human Protein Atlas.

Description

DSG3 Antibody for IHC detects Desmoglein 3 (DSG3), a calcium-dependent desmosomal cadherin encoded by the

DSG3 gene on chromosome 18q12.1. Desmoglein 3 is a single-pass transmembrane glycoprotein localized to desmosomes at the plasma membrane of stratified epithelial cells, where it mediates strong intercellular adhesion and maintains tissue cohesion. A DSG3 Antibody for IHC is commonly used to evaluate epithelial differentiation, mucocutaneous integrity, and squamous cell carcinoma biology in formalin-fixed tissue sections. This mouse monoclonal antibody clone MSVA-543M supports detection of membranous DSG3 expression in epithelial tissues. This antibody is part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

DSG3 antibody, also referred to as Desmoglein 3 antibody in the literature, recognizes a core structural component of desmosomal junctions within the cadherin superfamily. Its extracellular cadherin repeats enable calcium-dependent homophilic adhesion between adjacent epithelial cells, while its intracellular domain associates with desmosomal plaque proteins including Plakoglobin and Desmoplakin. Through these interactions, Desmoglein 3 anchors keratin intermediate filaments to the plasma membrane, reinforcing epithelial cohesion in tissues subjected to mechanical stress, particularly the epidermis and mucosal surfaces.

Expression of DSG3 is most prominent in the basal and immediate suprabasal layers of stratified squamous epithelia, including oral mucosa, esophagus, cervix, and epidermis. In contrast to Desmoglein 1, which is enriched in superficial epidermal layers, Desmoglein 3 is concentrated in deeper epithelial layers and plays a central role in maintaining mucocutaneous stability. A DSG3 Antibody for IHC typically demonstrates strong membranous staining in these basal epithelial compartments and is frequently used in studies of squamous differentiation and epithelial organization. Autoantibodies directed against Desmoglein 3 are strongly associated with pemphigus vulgaris, where disruption of desmosomal adhesion leads to intraepidermal blister formation. Altered DSG3 expression has also been reported in squamous cell carcinoma and other epithelial malignancies, where desmosomal remodeling may influence tumor differentiation and invasion patterns.

Structurally, Desmoglein 3 contains multiple extracellular cadherin domains, a transmembrane region, and an intracellular tail that integrates into the desmosomal plaque complex. Beyond its adhesive role, DSG3 participates in signaling pathways regulating keratinocyte proliferation, differentiation, and epithelial homeostasis. Dysregulated expression may alter epithelial architecture and contribute to inflammatory or neoplastic processes. Through its essential function in desmosomal integrity, Desmoglein 3 remains a key marker in epithelial biology, dermatologic disease research, and tumor-associated epithelial differentiation.

Explore our Desmoglein 3 Antibody - Human Protein Microarray Validated Clone DSG3/2838 page for a broader view of DSG3 expression in stratified epithelia with supporting microarray specificity validation data.

Application Notes

1. Optimal dilution of the DSG3 antibody for IHC should be determined by the researcher.

2. This DSG3/Desmoglein 3 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment (around amino acids 379-491) human DSG3 protein (exact sequence is proprietary) was used as the immunogen for the DSG3 antibody for IHC.

Storage

DSG3/Desmoglein 3 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to

-80oC.

Alternate Names

Desmoglein 3 antibody, DSG3 antibody, Desmoglein-3 antibody, Pemphigus antigen antibody

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