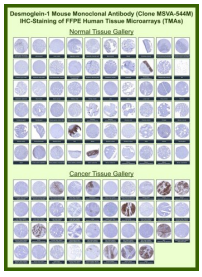
DSG1 Antibody for IHC / Desmoglein 1 Antibody [clone MSVA-544M] (V6068)

Catalog No.	Formulation	Size
V6068-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6068-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant | MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG2a, kappa
Clone Name	MSVA-544M
UniProt	Q02413
Localization	Cell junction, Cell membrane, Desmosome
Applications	Immunohistochemistry (FFPE): 1:75-1:150
Limitations	This DSG1 / Desmoglein 1 antibody is available for research use only.



DSG1 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Desmoglein 1 DSG1 in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant mouse monoclonal antibody clone MSVA-544M. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates strong membranous localization in stratified squamous epithelium, including skin, esophagus, and tonsil surface epithelium, consistent with suprabasal keratinocyte expression, while most non-stratified epithelia and non-epithelial tissues remain largely negative. Within tumor tissue microarrays, membranous staining is observed in squamous cell carcinomas of the larynx, oral cavity, vulva, and cervix, as well as in selected urothelial carcinomas, reflecting retained epithelial differentiation, whereas most adenocarcinomas and non-epithelial malignancies show minimal to no staining. Evaluation across large TMA panels enables direct comparison of DSG1 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported Desmoglein 1 expression profiles in the Human Protein Atlas and support its role in desmosomal cell-cell junctions.

Description

DSG1 Antibody for IHC detects Desmoglein 1 (DSG1), a calcium-dependent desmosomal cadherin encoded by the DSG1 gene on chromosome 18q12.1. Desmoglein 1 is a single-pass transmembrane glycoprotein localized to desmosomes at the plasma membrane of stratified epithelial cells, where it mediates strong intercellular adhesion and preserves epidermal structural integrity. A DSG1 Antibody for IHC is commonly used to evaluate epithelial differentiation, barrier formation, and desmosomal integrity in tissue sections. This mouse monoclonal antibody clone MSVA-544M supports immunohistochemical detection of membranous DSG1 expression in formalin-fixed tissues.

DSG1 antibody, also referred to as Desmoglein 1 antibody in the literature, recognizes a core structural component of desmosomal junctions within the cadherin superfamily. Its extracellular cadherin repeats mediate calcium-dependent homophilic adhesion between adjacent keratinocytes, while its cytoplasmic domain associates with desmosomal plaque proteins including Plakoglobin and Desmoplakin. Through these interactions, Desmoglein 1 anchors keratin intermediate filaments to the plasma membrane, reinforcing mechanical resilience in tissues exposed to friction and physical stress, particularly the epidermis and mucosal epithelium.

Expression of DSG1 is predominantly observed in the suprabasal layers of stratified squamous epithelia, including skin, oral mucosa, and esophagus, where it is enriched in differentiated keratinocytes and contributes to epidermal stratification and barrier function. A DSG1 Antibody for IHC typically demonstrates strong membranous staining in suprabasal epithelial layers and is frequently used in studies of squamous differentiation and epithelial organization. Autoantibodies directed against Desmoglein 1 are implicated in pemphigus foliaceus, where disruption of desmosomal adhesion results in superficial epidermal blistering. Altered DSG1 expression has also been associated with inherited skin disorders and inflammatory conditions affecting epithelial cohesion.

Structurally, Desmoglein 1 contains multiple extracellular cadherin domains, a transmembrane region, and an intracellular tail that connects to the desmosomal plaque complex. Beyond its structural role, Desmoglein 1 participates in signaling pathways that regulate keratinocyte differentiation and epidermal homeostasis. Dysregulated DSG1 expression may alter epithelial architecture and contribute to inflammatory or neoplastic processes in stratified epithelia. Through its essential role in maintaining desmosomal integrity, Desmoglein 1 remains central to research in epithelial biology, dermatologic disease mechanisms, and tumor-associated epithelial differentiation.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the DSG1 Antibody for IHC / Desmoglein 1 Antibody should be determined by the researcher.

2. This DSG1 / Desmoglein 1 is recombinantly produced by expression in CHO 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

Bovine desmoglein (desmosomal glyco protein I) from nasal epidermis was used as the immunogen for the DSG1 antibody for IHC.

Storage

DSG1 / Desmoglein 1 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

Desmoglein 1 antibody, DSG1 antibody, Desmoglein-1 antibody, Desmosomal cadherin antibody

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