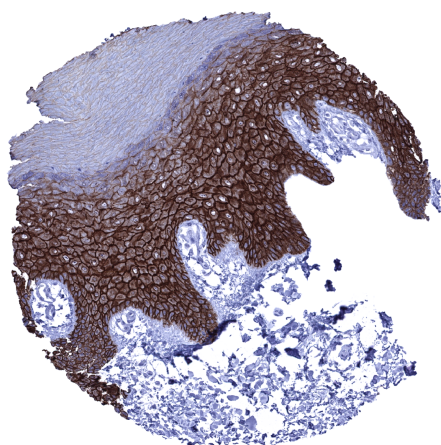


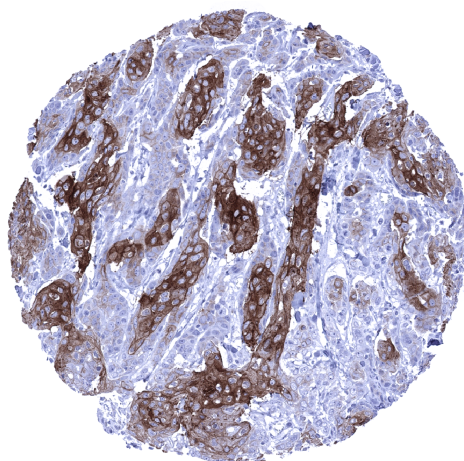
Anti-Desmoglein 1 Antibody MSVA-544M / Mouse monoclonal

Human SwissProt	Q02413
Human Gene Symbol	DSG1
Synonyms	Cadherin family member 4; CDHF4; Desmoglein-1; Desmosomal glycoprotein 1; DG1; DSG1; EPKHE; EPKHIA; Pemphigus foliaceus antigen; PPKS1; SPPK1
Specificity	Desmoglein 1
Immunogen	Human desmoglein-1 intracellular domain
Isotype	Mouse / IgG
Species Reactivity	Human
Localization	Cell surface

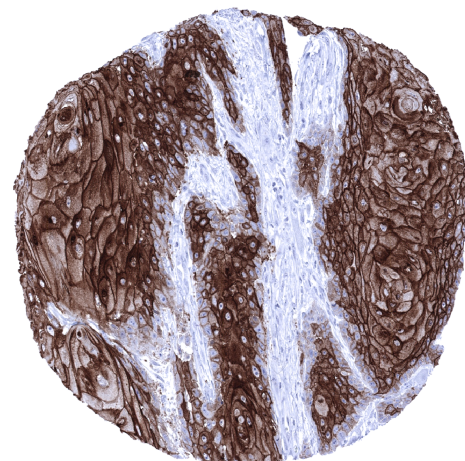
Storage & Stability	Antibody with azide - store at 2 to 8°C. Antibody without azide - store at -20 to -80°C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide.
Positive Control	Tonsil: A moderate to strong desmoglein 1 immunostaining should be seen in a fraction of squamous epithelial cells.
Negative Control	Tonsil: Desmoglein 1 immunostaining should be absent in all non-squamous epithelial cell types.



Squamous epithelium of the skin showing a strong membranous Dsg1 immunostaining



Squamous cell carcinoma with variable Dsg1 staining of tumor cells showing only weak staining at the periphery of tumor cell nests



Squamous cell carcinoma of the oral cavity with strong Dsg1 positivity of most tumor cells

Biology

Desmoglein-1 (Dsg1) is a 114 kDa calcium-binding transmembrane glycoprotein which is coded by the DSG1 gene at chromosome 18q12.1. Dsg1 is a component of desmosomes. It is relevant for cell-cell adhesion but also has important functional roles for organization and maintenance of squamous epithelial tissues. When squamous cells exit the proliferating basal layer, Dsg1 attenuates MAPK/ERK signaling to enable further cell differentiation. In response to UV exposure, Dsg1 expression is downregulated which results in a re-activation of the MAPK/ERK pathway and increased epidermal inflammation. In the skin, Dsg1 modulates pigment production and secretion and other functions of melanocytes through regulation of the production of cytokines and other secreted factors. Deficiency or decreased expression of the Dsg1 protein results in an increased expression of several allergy-associated cytokines. Loss-of-function mutations in Dsg1 lead to severe dermatitis, multiple allergies, and metabolic wasting (SAM) syndrome. In normal tissues, Dsg1 immunostaining occurs in keratinizing and non-keratinizing squamous epithelia where a predominantly membranous staining pattern can be observed. The extent of staining is variable and ranges from a staining of the entire squamous epithelium to a predominant staining of the suprabasal 2/3 of the epithelium with weak or absent staining of the basal cells and decreasing staining intensity towards the surface of the epithelium. In tumors, Dsg1 immunostaining is usually seen in squamous cell carcinomas irrespective of their site of origin and in tumor areas exhibiting squamous differentiation. Squamous differentiation can occur in many different tumor entities including urothelial cancer, gastric cancer, pancreatic adenocarcinoma, endometroid carcinoma and others.

Potential Research Applications

- The diagnostic utility of desmoglein 1 IHC should be investigated in a large cohort of tumors from different entities.
- Desmoglein 1 has been suggested as a prognostic parameter in several different cancer types. This subject deserves further investigation.

Protocol Suggestions

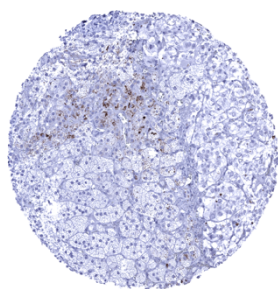
Dilution: 1:100 ; pH 7,8 is optimal (only weak staining is obtained at pH6,0). Freshly cut sections should be used (less than 10 days between cutting and staining).

Limitations

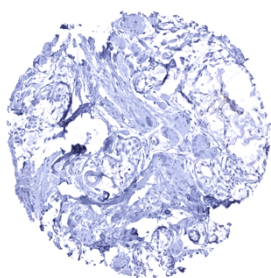
This antibody is available for **research use only** and is not approved for use in diagnostics. Not for resale without express authorization.

Warranty

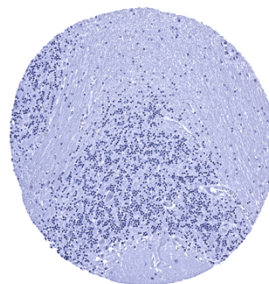
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



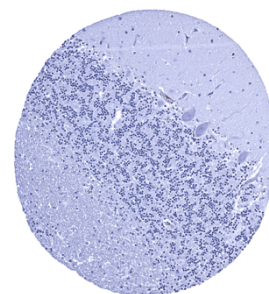
Adrenal gland - This sample contains pigment, no true staining



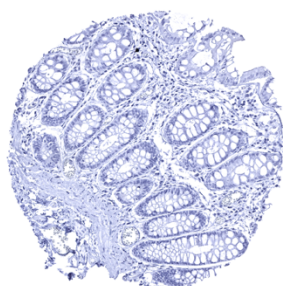
Breast



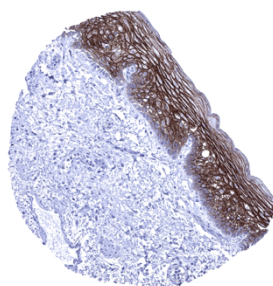
Cerebellum (molecular layer, Purkinje cell layer, granule cell layer, white matter)



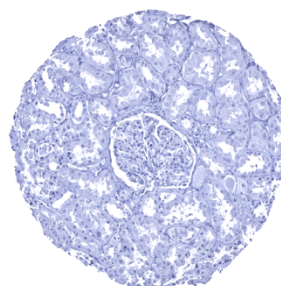
Cerebellum (molecular, Purkinje cell, granule cell layers, white matter)



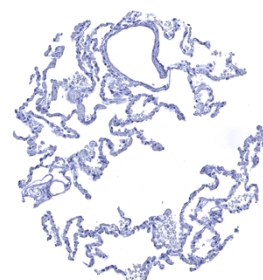
Colon descendens, mucosa



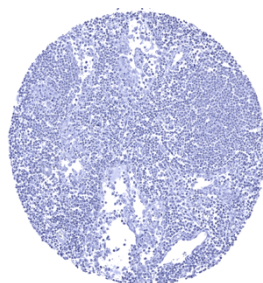
Esophagus, squamous epithelium - Moderate to strong membranous desmoglein 1 immunostaining of the squamous epithelium. The staining is less intense in the basal cell layers



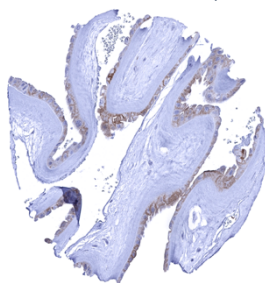
Kidney, cortex



Lung



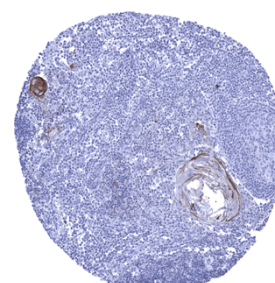
Lymph node



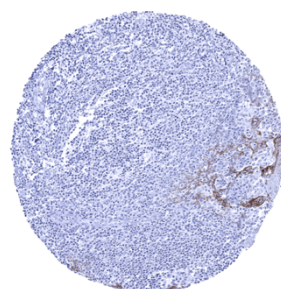
Placenta (amnion and chorion) - Weak to moderate, membranous, predominantly apical desmoglein 1 immunostaining of amnion cells



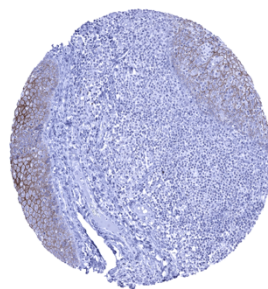
Prostate



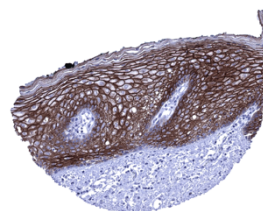
Thymus - Moderate to strong membranous desmoglein 1 immunostaining of squamous epithelial cells of corpuscles of Hassall's



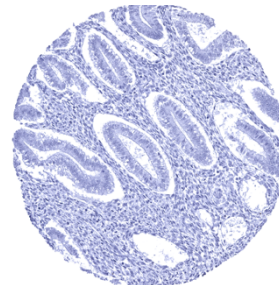
Tonsil - Moderate to strong desmoglein 1 immunostaining of a fraction of squamous epithelial cells in tonsil crypt epithelium



Tonsil, surface epithelium - Weak to moderate membranous desmoglein 1 immunostaining of the squamous epithelium. The staining is least intensive in the basal cell layers



Uterus, ectocervix - Strong membranous desmoglein 1 immunostaining of all cell layers of the squamous epithelium



Uterus, endometrium (secretion)