

Anti-Desmoglein 2/DSG2 Antibody Picoband™ (monoclonal, 2B4D1)
Catalog # ABO16617**Specification****Anti-Desmoglein 2/DSG2 Antibody Picoband™ (monoclonal, 2B4D1) - Product Information**

Application	WB, IHC
Primary Accession	Q14126
Host	Mouse
Isotype	IgG1
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized

Description

Anti-Desmoglein 2/DSG2 Antibody Picoband™ (monoclonal, 2B4D1) . Tested in IHC, WB applications. This antibody reacts with Human.

Reconstitution

Adding 0.2 ml of distilled water will yield a concentration of 500 µg/ml.

Anti-Desmoglein 2/DSG2 Antibody Picoband™ (monoclonal, 2B4D1) - Additional Information

Gene ID 1829

Other Names

Desmoglein-2, Cadherin family member 5, HDGC, DSG2, CDHF5

Calculated MW

160 kDa KDa

Application Details

Western blot, 0.25-0.5 µg/ml, Human
 Immunohistochemistry(Paraffin-embedded Section), 2-5 µg/ml, Human

Contents

Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na₂HPO₄.

Immunogen

E.coli-derived human Desmoglein 2/DSG2 recombinant protein (Position: L24-E1020).

Purification

Immunogen affinity purified.

Storage

At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Anti-Desmoglein 2/DSG2 Antibody Picoband™ (monoclonal, 2B4D1) - Protein Information

Name DSG2

Synonyms CDHF5

Function

A component of desmosome cell-cell junctions which are required for positive regulation of cellular adhesion (PubMed:38395410). Involved in the interaction of plaque proteins and intermediate filaments mediating cell-cell adhesion. Required for proliferation and viability of embryonic stem cells in the blastocyst, thereby crucial for progression of post-implantation embryonic development (By similarity). Maintains pluripotency by regulating epithelial to mesenchymal transition/mesenchymal to epithelial transition (EMT/MET) via interacting with and sequestering CTNBN1 to sites of cell-cell contact, thereby reducing translocation of CTNBN1 to the nucleus and subsequent transcription of CTNBN1/TCF-target genes (PubMed:29910125). Promotes pluripotency and the multi-lineage differentiation potential of hematopoietic stem cells (PubMed:27338829). Plays a role in endothelial cell sprouting and elongation via mediating the junctional-association of cortical actin fibers and CDH5 (PubMed:27338829). Plays a role in limiting inflammatory infiltration and the apoptotic response to injury in kidney tubular epithelial cells, potentially via its role in maintaining cell-cell adhesion and the epithelial barrier (PubMed:38395410).

Cellular Location

Cell membrane; Single-pass type I membrane protein. Cell junction, desmosome. Cytoplasm

Tissue Location

Expressed in undifferentiated pluripotent stem cells, expression decreases during differentiation (at protein level) (PubMed:29910125). Expressed in hematopoietic stem cells and circulating endothelial progenitor cells, expression decreases upon increasing cell lineage commitment (at protein level) (PubMed:27338829). Expressed on common myeloid progenitors, pro- myelocytes, pro-erythrocytes and B-cell lineage progenitors (at protein level). Expression in mature cell types in the bone marrow and mature leukocyte populations is absent (PubMed:27338829). Expressed by foreskin fibroblasts, expression peaks during the early stage of differentiation reprogramming (at protein level) (PubMed:29910125) Expressed by endothelial cells in both arterioles and venules in the cervix (at protein level) (PubMed:27338829). Expressed in kidney tubular epithelial cells (PubMed:38395410)

Anti-Desmoglein 2/DSG2 Antibody Picoband™ (monoclonal, 2B4D1) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-Desmoglein 2/DSG2 Antibody Picoband™ (monoclonal, 2B4D1) - Images

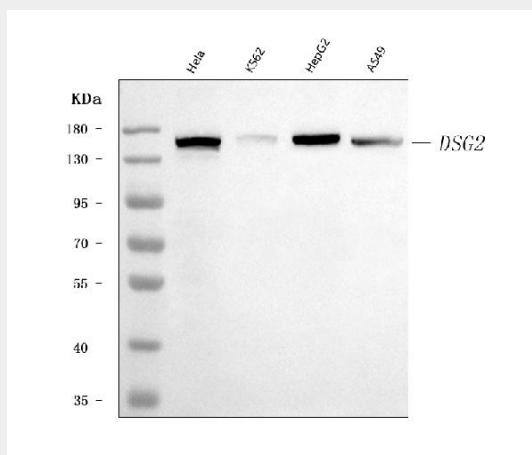


Figure 1. Western blot analysis of Desmoglein 2/DSG2 using anti-Desmoglein 2/DSG2 antibody (M02035-2).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

- Lane 1: human HeLa whole cell lysates,
- Lane 2: human K562 whole cell lysates,
- Lane 3: human HepG2 whole cell lysates,
- Lane 4: human A549 whole cell lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-Desmoglein 2/DSG2 antigen affinity purified monoclonal antibody (Catalog # M02035-2) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Desmoglein 2/DSG2 at approximately 160 kDa. The expected band size for Desmoglein 2/DSG2 is at 122 kDa.

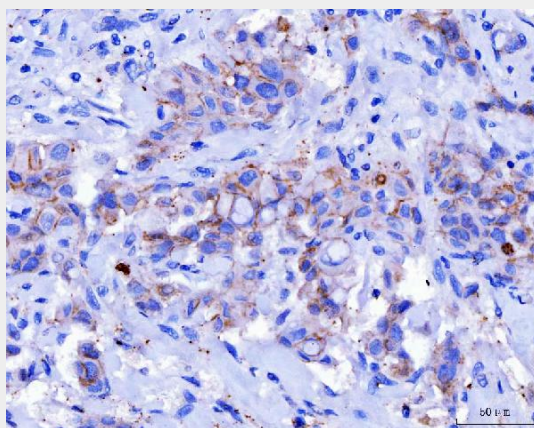


Figure 2. IHC analysis of Desmoglein 2/DSG2 using anti-Desmoglein 2/DSG2 antibody (M02035-2). Desmoglein 2/DSG2 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-Desmoglein 2/DSG2 Antibody (M02035-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit

(Catalog # SV0001) with DAB as the chromogen.

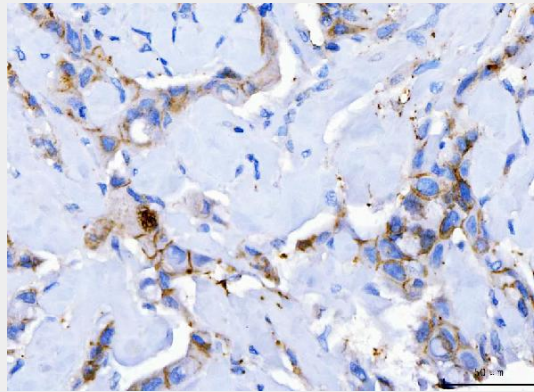


Figure 3. IHC analysis of Desmoglein 2/DSG2 using anti-Desmoglein 2/DSG2 antibody (M02035-2). Desmoglein 2/DSG2 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 μ g/ml mouse anti-Desmoglein 2/DSG2 Antibody (M02035-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

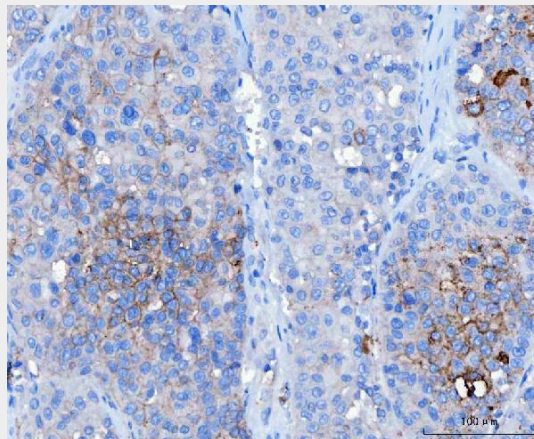


Figure 4. IHC analysis of Desmoglein 2/DSG2 using anti-Desmoglein 2/DSG2 antibody (M02035-2). Desmoglein 2/DSG2 was detected in a paraffin-embedded section of human hepatocellular carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 μ g/ml mouse anti-Desmoglein 2/DSG2 Antibody (M02035-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

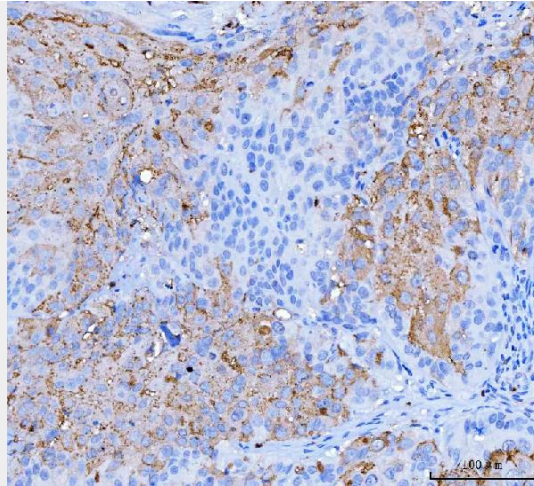


Figure 5. IHC analysis of Desmoglein 2/DSG2 using anti-Desmoglein 2/DSG2 antibody (M02035-2). Desmoglein 2/DSG2 was detected in a paraffin-embedded section of human laryngeal squamous cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 $\mu\text{g}/\text{ml}$ mouse anti-Desmoglein 2/DSG2 Antibody (M02035-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

Anti-Desmoglein 2/DSG2 Antibody Picoband™ (monoclonal, 2B4D1) - Background

Desmoglein-2 is a protein that in humans is encoded by the DSG2 gene. These desmoglein gene family members are located in a cluster on chromosome 18. This second family member is expressed in colon, colon carcinoma, and other simple and stratified epithelial-derived cell lines. Mutations in DSG2 display a high degree of penetrance. Disease expression was of variable severity with LV involvement a prominent feature. The low prevalence of classical ECG changes highlights the need to expand current diagnostic criteria to take account of LV disease, childhood disease expression, and incomplete penetrance.