

## Desmoglein 3

### Concentrated and Prediluted Monoclonal Antibody

Control Number: 902-419-083117

<b>Catalog Number:</b>	<b>ACR 419 A, C</b>	<b>APR 419 AA</b>
<b>Description:</b>	0.1, 1.0 ml, concentrated	6.0 ml, prediluted
<b>Dilution:</b>	1:100-1:200	Ready-to-use
<b>Diluent:</b>	Renoir Red	N/A

**Intended Use:**

For Research Use Only. Not for use in diagnostic procedures.

**Summary and Explanation:**

Desmoglein 3 (DSG3) is a calcium-binding transmembrane glycoprotein component of desmosomes in vertebrate epithelial cells. Desmosomes are cell-cell junctions between epithelial, myocardial, and certain other cell types. 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 auto antigen of the autoimmune skin blistering disease pemphigus vulgaris. Lung studies have shown that DSG3 had a sensitivity and specificity of 83% and 100% respectively, in detecting squamous cell carcinoma (SqCC) versus adenocarcinoma. Thus, DSG3 is a first class marker for lung SqCC and can be a useful ancillary marker to separate SqCC from other subtypes of lung cancer. Other studies have shown that DSG3 expression in Lung SqCC indicated a poor prognosis in lung cancers and portends a more aggressive clinical outcome.

**Source:** Mouse monoclonal

**Species Reactivity:** Human; others not tested

**Clone:** BC11

**Isotype:** IgG1

**Total Protein Concentration:** ~10 mg/ml. Call for lot specific Ig concentration.

**Epitope/Antigen:** Desmoglein 3

**Cellular Localization:** Membrane

**Positive Control:** Lung squamous cell carcinoma

**Normal Tissue:** Skin, tonsil, esophagus, cervix and kidney

**Abnormal Tissue:** Squamous cell lung cancer

**Known Applications:**

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative.

**Storage and Stability:**

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

**Protocol Recommendations:**

**Peroxide Block:**

Block for 5 minutes with Biocare's Peroxidized 1.

**Pretreatment Solution:** Diva (preferred) or Reveal

**Heat Retrieval Method:**

Retrieve sections under pressure using Biocare's Decloaking Chamber followed by a wash in distilled water. Alternatively, steam tissue sections for 45-60 minutes. Allow solution to cool for 10 minutes then wash in distilled water.

**Protein Block:**

**Optional:** Incubate for 5-10 minutes at RT with Biocare's Background Punisher.

**Primary Antibody:** Incubate for 30 minutes at RT.

**Probe:** Incubate for 10 minutes at RT with a MACH 4 Probe.

**Polymer:** Incubate for 10 minutes at RT with a MACH 4 Polymer.

**Protocol Recommendations cont'd:**

**Chromogen:**

Incubate for 5 minutes at RT when using Biocare's DAB. -OR- Incubate for 5-7 minutes at RT when using Biocare's Warp Red.

**Counterstain:**

Counterstain with Hematoxylin. Rinse with deionized water. Apply Tacha's Bluing solution for 1 minute. Rinse with deionized water.

**Technical Note:**

1. This antibody has been standardized with Biocare's MACH 4 detection system. It can also be used on an automated staining system and with other Biocare polymer detection kits. Use TBS buffer for washing steps.

2. If used with PulmoPanel™ it is strongly recommended that Diva + MACH 4 detection be used.

**Performance Characteristics:**

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to: fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions. These products are tools that can be used for interpretation of morphological findings in conjunction with other diagnostic tests and pertinent clinical data by a qualified pathologist.

**Quality Control:**

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2). CLSI Wayne, PA, USA (www.clsi.org). 2011

**Precautions:**

This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC.

Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976).

Specimens, before and after fixation and all materials exposed to them, should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water.

Microbial contamination of reagents may result in an increase in nonspecific staining. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change. The MSDS is available upon request and is located at <http://biocare.net/support/msds/>.

**Troubleshooting:**

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at -800-542-2002.

**Limitations and Warranty:**

There are no warranties, expressed or implied, which extend beyond this description. Biocare is not liable for property damage, personal injury, or economic loss caused by this product.

**References:**

- Huang CC, et al. Desmoglein 3 is overexpressed in inverted papilloma and squamous cell carcinoma of sinonasal cavity. Laryngoscope. 2010 Jan; 120 (1):26-9.
- Savci-Hejink CD, et al. The role of desmoglein-3 in the diagnosis of squamous cell carcinoma of the lung. Am J Pathol. 2009 May; 174(5):1629-37. Epub 2009 Mar 26.

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### References cont'd:

3. Wong MP, et al. Loss of desmoglein 1 expression associated with worse prognosis in head and neck squamous cell carcinoma patients. *Pathology*. 2008 Oct; 40(6):611-6.
4. Kawasaki Y, et al. Pathogenic monoclonal antibody against desmoglein 3 augments desmoglein 3 and p38 MAPK phosphorylation in human squamous carcinoma cell line. *Autoimmunity*. 2006 Nov; 39(7):587-90.
5. Xi L, et al. A combination of molecular markers accurately detects lymph node metastasis in non-small cell lung cancer patients. *Clin Cancer Res*. 2006 Apr 15; 12(8):2484-91.
5. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
6. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory workers from occupationally Acquired Infections; Approved guideline-Third Edition CLSI document M29-A3 Wayne, PA 2005