

DSG2 (10D2) Mouse mAb (IF Specific)

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Applications: IF-IC	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 142	Source/Isotype: Mouse IgG1	UniProt ID: #Q14126	Entrez-Gene Id: 1829
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Product Usage Information**Application**

Immunofluorescence (Immunocytochemistry)

Dilution

1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

DSG2 (10D2) Mouse mAb (IF Specific) recognizes endogenous levels of total DSG2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a recombinant protein specific to the amino terminus of human DSG2 protein.

Background

Desmosomes are a class of intracellular junction that tightly link adjacent cells in mechanically stressed tissues such as the epithelium and myocardium (1). They derive their characteristic strength from the protein desmoplakin, which acts as a tether by binding the cytoplasmic component of the desmosome at its N terminus (2), while its C terminus is anchored to the intermediate-filament cytoskeleton (3). Desmogleins and desmocollins belong to the superfamily of cadherin proteins, the "glue" of the desmosome, as they are essential for strong cell-cell contacts (4). There are 4 types of desmogleins in humans, DSG1-4, and 3 types of desmocollins, DSC1-3. DSG2 is expressed in all desmosome bearing tissues, while other desmosome cadherin proteins have more specialized tissue expression. Research studies have shown that aberrant expression due to mutation of DSG2 is associated with arrhythmogenic right ventricular cardiomyopathy (5,6). Research has also shown that mutation and altered expression of DSG1 and 3 have been associated with autoimmune disorders such as Pemphigus, inherited disorders such as defective hair-follicle differentiation, and striate palmoplantar keratoderma, an epidermal-thickening disease (reviewed in 7).

Background References

1. Stokes, D.L. (2007) *Curr Opin Cell Biol* 19, 565-71.
2. Kowalczyk, A.P. et al. (1997) *J Cell Biol* 139, 773-84.
3. Meng, J.J. et al. (1997) *J Biol Chem* 272, 21495-503.
4. Nollet, F. et al. (2000) *J Mol Biol* 299, 551-72.
5. Awad, M.M. et al. (2006) *Am J Hum Genet* 79, 136-42.
6. Pilichou, K. et al. (2006) *Circulation* 113, 1171-9.
7. Delva, E. et al. (2009) *Cold Spring Harb Perspect Biol* 1, a002543.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

IF-IC: Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

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