

**BM371****Monoclonal Antibody to Desmoplakin (DP1+DP2) - Purified**

<b>Alternate names:</b>	250/210 kDa paraneoplastic pemphigus antigen, DP, DSP
<b>Quantity:</b>	50 µg
<b>Background:</b>	Desmosomes are intercellular junctions that form tight links between adjacent cells. Desmoplakin is an obligate component of functional desmosomes that attaches intermediate filaments to desmosomal plaques. It is involved in the organization of desmosomal cadherin-plakoglobin complexes into discrete plasma membrane domains. The N-terminus of desmoplakin is essential for localisation to the desmosome and interaction with plakophilin 1 and plakoglobin. The C-terminus of desmoplakin binds to intermediate filaments. The central region of desmoplakin comprises a coiled-coil rod domain that mediates homodimerisation. There are two isoforms of desmoplakin - desmoplakin I, which is an obligate component of all desmosomes, and desmoplakin II, which is predominantly expressed in tissues and cells of stratified origin. Mutations in the gene encoding desmoplakin result in a number of cardiomyopathies and keratodermas as well as the autoimmune disease paraneoplastic pemphigus.
<b>Uniprot ID:</b>	<a href="#">P15924</a>
<b>NCBI:</b>	<a href="#">NP_001008844</a>
<b>GeneID:</b>	<a href="#">1832</a>
<b>Host / Isotype:</b>	Mouse / IgG1
<b>Recommended Isotype Controls:</b>	SM10P (for use in human samples), SM20P (for use in rat samples), AM03095PU-N
<b>Clone:</b>	DP2.15
<b>Immunogen:</b>	Bovine Desmoplakin 1 and 2
<b>Format:</b>	<b>State:</b> Lyophilized purified Ig fraction <b>Purification:</b> Affinity Chromatography on Protein A <b>Buffer System:</b> Final solution contains PBS, pH 7.4 <b>Preservatives:</b> 0.09% Sodium Azide <b>Stabilizers:</b> 0.5% BSA <b>Reconstitution:</b> Restore in 1 ml distilled water
<b>Applications:</b>	<b>Immunoblotting.</b> <b>Immunofluorescence.</b> <b>Immunohistochemistry on Frozen Sections:</b> Dilute 1/10 with PBS, pH 7.4 <b>Incubation Time:</b> 1 h at RT. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
<b>Specificity:</b>	This antibody reacts to Desmoplakin 1&2. It shows distinct punctate membrane staining of different epithelia. <b>Tumors Specifically Detected:</b> Primary and metastatic carcinoma and meningioma. <b>Polypeptides Reacting:</b> Desmoplakin 1 and 2 (Mr 250 000 and 215 000).

**Reactivity on Tested Cell Lines:** Several Human carcinoma cell lines: MCF-7, A-431; Rat MHC1C1 cell line; Bovine cells: MDBK, BMGE.

**Species Reactivity:** **Tested:** Human, Bovine, Rat, Mouse and Chicken.

**Storage:** Prior to reconstitution store at 2-8°C.  
Following reconstitution store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.  
Avoid repeated freezing and thawing.  
Shelf life: one year from despatch.

**General Readings:**

1. Cowin P, Kapprell HP, Franke WW. The complement of desmosomal plaque proteins in different cell types. *J Cell Biol.* 1985 Oct;101(4):1442-54. PubMed PMID: 2413044.
2. Dockhorn-Dworniczak, B., Franke, W.W., Schröder, S., Czernobilsky, B., Gould, V.E. and Böcker, W.: Patterns of expression of cytoskeletal protein in human thyroid gland and thyroid carcinomas. *Differentiation* 35, 53-71 (1987).
3. Franke WW, Moll R, Mueller H, Schmid E, Kuhn C, Krepler R, et al. Immunocytochemical identification of epithelium-derived human tumors with antibodies to desmosomal plaque proteins. *Proc Natl Acad Sci U S A.* 1983 Jan;80(2):543-7. PubMed PMID: 6340102.
4. Koch PJ, Walsh MJ, Schmelz M, Goldschmidt MD, Zimbelmann R, Franke WW. Identification of desmoglein, a constitutive desmosomal glycoprotein, as a member of the cadherin family of cell adhesion molecules. *Eur J Cell Biol.* 1990 Oct;53(1):1-12. PubMed PMID: 1706270.
5. Moll I, Moll R. Comparative cytokeratin analysis of sweat gland ducts and eccrine poromas. *Arch Dermatol Res.* 1991;283(5):300-9. PubMed PMID: 1718227.
6. Moll R, Cowin P, Kapprell HP, Franke WW. Desmosomal proteins: new markers for identification and classification of tumors. *Lab Invest.* 1986 Jan;54(1):4-25. PubMed PMID: 2417037.
7. Owaribe K, Kartenbeck J, Stumpp S, Magin TM, Krieg T, Diaz LA, et al. The hemidesmosomal plaque. I. Characterization of a major constituent protein as a differentiation marker for certain forms of epithelia. *Differentiation.* 1990 Dec;45(3):207-20. PubMed PMID: 2090522.
8. Owaribe K, Nishizawa Y, Franke WW. Isolation and characterization of hemidesmosomes from bovine corneal epithelial cells. *Exp Cell Res.* 1991 Feb;192(2):622-30. PubMed PMID: 1988297.
9. Schmelz M, Franke WW. Complexus adhaerentes, a new group of desmoplakin-containing junctions in endothelial cells: the syndesmos connecting retothelial cells of lymph nodes. *Eur J Cell Biol.* 1993 Aug;61(2):274-89. PubMed PMID: 8223718.
10. Hatzfeld M, Haffner C, Schulze K, Vinzens U. The function of plakophilin 1 in desmosome assembly and actin filament organization. *J Cell Biol.* 2000 Apr 3;149(1):209-22. PubMed PMID: 10747098.
11. Bosch FX, Andl C, Abel U, Kartenbeck J. E-cadherin is a selective and strongly dominant prognostic factor in squamous cell carcinoma: a comparison of E-cadherin with desmosomal components. *Int J Cancer.* 2005 May 1;114(5):779-90. PubMed PMID: 15609307.