



E-Cadherin/Cadherin-1 (MB2)

CATALOG NUMBER: MUB0300S

CLONE: MB2

SPECIES / ISOTYPE: mouse IgG2b

PRODUCT FORM: Culture supernatant of monoclonal antibody

BACKGROUND

Cadherins constitute a family of transmembrane glycoproteins involved in Ca^{2+} -dependent cell-cell interactions. The members of this family are differentially expressed in various tissues. They function in the maintenance of tissue integrity and morphogenesis. Cadherins are divided into type I and type II subgroups. Type I cadherins include epithelial cadherin (E-cadherin, cadherin-1 or uvomorulin), neural cadherin (N-cadherin or cadherin-2), placental cadherin (P-cadherin or cadherin-3) and retinal cadherin (R-cadherin or cadherin-4), whereas kidney cadherin (K-cadherin or cadherin-6) and osteoblast cadherin (OB-cadherin or cadherin-11) are type II cadherins. One of the best characterized cadherins is E-cadherin, a 120 kD transmembrane glycoprotein consisting of an 80 kD extracellular and a 40 kD transmembrane and cytoplasmic part. The extracellular domains of E-cadherin are responsible for calcium binding which allows for homophilic interaction with other E-cadherin molecules on the same cell and neighbouring cells. In addition, E-cadherin can interact heterophilically with integrin $\alpha_5\beta_7$. The cytoplasmic domain of E-cadherin is linked to the actin cytoskeleton through the associated cytoplasmic catenin proteins, thus establishing a complex localized to adherens junctions. In carcinomas E-cadherin is frequently downregulated, which is consistent with its function of an invasion suppressor in normal epithelia.

SOURCE

MB2 is a mouse monoclonal IgG2b antibody derived by fusion of NS0 mouse myeloma cells with spleen cells from a BALB/c mouse immunized with MCF-7/AZ cells expressing E-cadherin at their cell surface.

PRODUCT

Each vial contains 1 ml of culture supernatant of monoclonal antibody in PBS containing 0.09% sodium azide.

SPECIFICITY

MB2 recognizes both the 120 kD E-cadherin and its 80 kD trypsin-resistant extracellular part. MB2 is a functional antibody in that it inhibits cell-cell adhesion.

MB2 is useful for flow cytometry, immunoblotting, immunocytochemistry on fixed cells (methanol fixation) and immunohistochemistry on frozen tissues when using a PBS buffer containing 0.1 mM CaCl_2 and 0.1 mM MgCl_2 and for immunohistochemistry with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent. Optimal antibody dilution should be determined by titration.

SPECIES REACTIVITY

Human.

STORAGE

Store at 4°C, or in small aliquots at -20°C.

REFERENCES

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2. Steelant, W. F., Goeman, J. L., Philippe, J., Oomen, L. C., Hilkens, J., Krzewinski-Recchi, M. A., Huet, G., Van der Eycken, J., Delannoy, P., Bruyneel, E. A., and Mareel, M. M. (2001). Alkyl-lysophospholipid 1-O-octadecyl-2-O-methyl-glycerophosphocholine induces invasion through episialin-mediated neutralization of E-cadherin in human mammary MCF-7 cells in vitro, *Int J Cancer* 92, 527-36.
3. Rong, H., Boterberg, T., Maubach, J., Stove, C., Depypere, H., Van Slambrouck, S., Serreyn, R., De Keukeleire, D., Mareel, M., and Bracke, M. (2001). 8-Prenylnaringenin, the phytoestrogen in hops and beer, upregulates the function of the E-cadherin/catenin complex

WARNING and CAUTION

This product is intended FOR RESEARCH USE ONLY, and FOR TESTS IN VITRO, not for use in diagnostic or therapeutic procedures involving humans or animals.

This product contains sodium azide. To prevent formation of toxic vapors, do not mix with strong acidic solutions. To prevent formation of potentially explosive metallic azides in metal plumbing, always wash into drain with copious quantities of water.

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