

#40491 Store at -20C

M-Cadherin (D4B9L) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-F, IF-IC	H M	Endogenous	130	Rabbit IgG	#P33146	12555

Product Usage Information

Application

Western Blotting
Immunoprecipitation
Immunofluorescence (Frozen)
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:200
1:200
1:200

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

M-Cadherin (D4B9L) Rabbit mAb recognizes endogenous levels of total M-Cadherin protein. The lower band in the doublet shown in C2C12 and RD extracts is unglycosylated M-Cadherin. The identity of the ~78 kDa band that is present in the C2C12 extract is not known but is likely to be a breakdown product in the lysate as it is absent in the IP input and pull-down. Note that human M-Cadherin runs slightly lower than mouse M-Cadherin.

Species predicted to react based on 100% sequence homology:

Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Alanine 399 of human M-Cadherin protein.

Background

Cadherins are a superfamily of transmembrane glycoproteins that contain cadherin repeats of approximately 100 residues in their extracellular domain. Cadherins mediate calcium-dependent cell-cell adhesion and play critical roles in normal tissue development (1). The classic cadherin subfamily includes N-, P-, R-, B-, and E-cadherins, as well as about ten other members that are found in adherens junctions, a cellular structure near the apical surface of polarized epithelial cells. The cytoplasmic domain of classical cadherins interacts with β -catenin, γ -catenin (also called plakoglobin), and p120 catenin. β -catenin and γ -catenin associate with α -catenin, which links the cadherin-catenin complex to the actin cytoskeleton (1,2). While β - and γ -catenin play structural roles in the junctional complex, p120 regulates cadherin adhesive activity and trafficking (1-4). Investigators consider E-cadherin an active suppressor of invasion and growth of many epithelial cancers (1-3). Research studies indicate that cancer cells have upregulated N-cadherin in addition to loss of E-cadherin. This change in cadherin expression is called the "cadherin switch." N-cadherin cooperates with the FGF receptor, leading to overexpression of MMP-9 and cellular invasion (3). Research studies have shown that in endothelial cells, VE-cadherin signaling, expression, and localization correlate with vascular permeability and tumor angiogenesis (5,6). Investigators have also demonstrated that expression of P-cadherin, which is normally present in epithelial cells, is also altered in ovarian and other human cancers (7,8).

M-cadherin is a cell-cell adhesion molecule expressed in satellite cells, a collection of adult stem cells/myogenic progenitors found in mature muscle tissue (9). Research studies indicate that M-cadherin may be involved in the recognition and fusion of adjacent cells, and may play an important role in activating satellite cell division (10).

Background References

1. Wheelock, M.J. and Johnson, K.R. (2003) *Annu Rev Cell Dev Biol* 19, 207-35.
2. Christofori, G. (2003) *EMBO J* 22, 2318-23.
3. Hazan, R.B. et al. (2004) *Ann N Y Acad Sci* 1014, 155-63.
4. Bryant, D.M. and Stow, J.L. (2004) *Trends Cell Biol* 14, 427-34.
5. Rabascio, C. et al. (2004) *Cancer Res* 64, 4373-7.
6. Yamaoka-Tojo, M. et al. (2006) *Arterioscler Thromb Vasc Biol* 26, 1991-7.
7. Patel, I.S. et al. (2003) *Int J Cancer* 106, 172-7.

8. Sanders, D.S. et al. (2000) *J Pathol* 190, 526-30.

9. Irintchev, A. et al. (1994) *Dev Dyn* 199, 326-37.

10. Marti, M. et al. (2013) *J Cell Sci* 126, 5116-31.

Species Reactivity

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

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **IF-F:** Immunofluorescence (Frozen)

IF-IC: Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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