Store at -20°C

#14215

N-Cadherin (13A9) Mouse mAb

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rev. 11/05/15

Entrez-Gene ID #1000
UniProt ID #P19022

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC	H, M, R, Mk	140 kDa	Mouse IgG1**
Endogenous			

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.*

***Species cross-reactivity is determined by western blot.**

****Anti-mouse secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

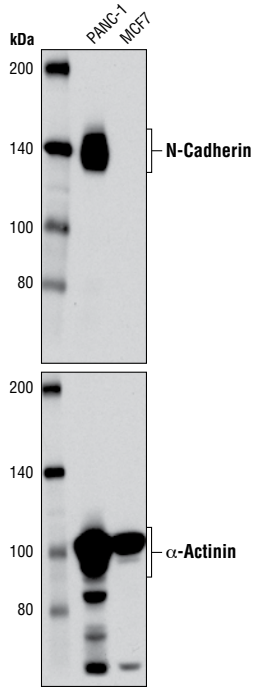
Western blotting	1:1000
Immunoprecipitation	1:200
Immunofluorescence (IF-IC)	1:200

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

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 up-regulated 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).

Specificity/Sensitivity: N-Cadherin (13A9) Mouse mAb recognizes endogenous levels of total N-cadherin protein. This antibody does not cross-react with other cadherin proteins.

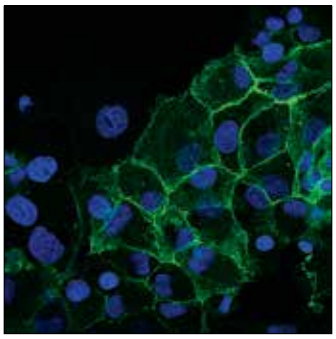
Source/Purification: Monoclonal antibody is produced by immunizing animals with MBP-tagged recombinant protein specific to the cytoplasmic domains of human N-cadherin protein.



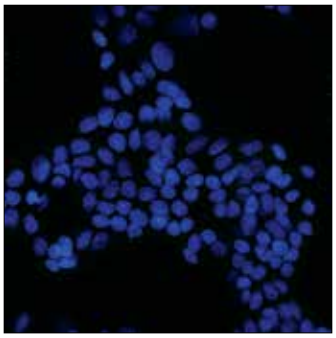
Western blot analysis of PANC-1 cells (positive) and MCF7 cells (negative) using N-Cadherin (13A9) Mouse mAb (upper) or α-Actinin (D6F6) XP® Rabbit mAb #6487 (lower).

Confocal immunofluorescent analysis of PANC-1 (positive, upper) and MCF7 (negative, lower) cells using N-Cadherin (13A9) Mouse mAb (green). Blue pseudocolor= DRAQ5® #4084 (fluorescent DNA dye). ▶

PANC-1



MCF7



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.

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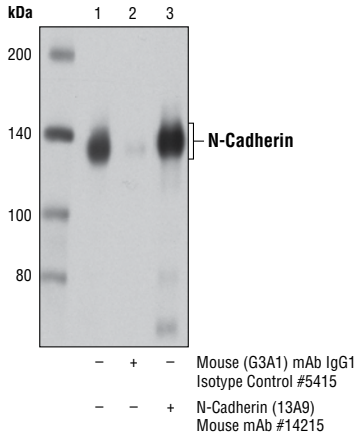
IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

Cell Signaling TECHNOLOGY®



Immunoprecipitation of N-Cadherin from PANC-1 cell extracts using Mouse (G3A1) mAb IgG1 Isotype Control #5415 (lane 2) or N-Cadherin (13A9) Mouse mAb (lane 3). Lane 1 is 10% input. Western blot was performed using N-Cadherin (13A9) Mouse mAb.