

# E-Cadherin Antibody

✓ 100 µl  
(10 western blots)

**Orders** ■ 877-616-CELL (2355)  
orders@cellsignal.com  
**Support** ■ 877-678-TECH (8324)  
info@cellsignal.com  
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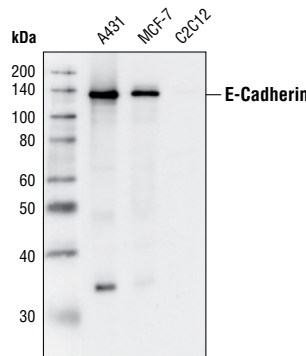
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IHC-P, IF-IC Endogenous	H, M, (B), (Dg)	135 kDa	Rabbit**

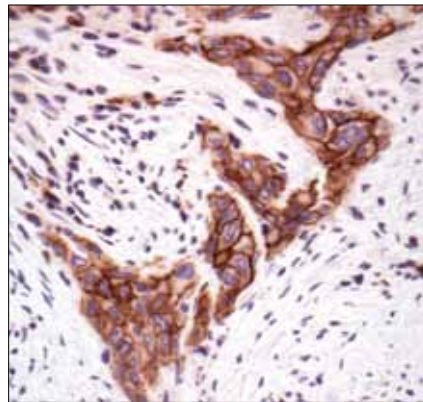
**Background:** Cadherins are a superfamily of trans-membrane glycoproteins that contain cadherin repeats of approximately 100 residues in their extracellular domain. Cadherins mediate calcium-dependent cell-cell adhesion and play critical roles in normal tissue development (1). The classic cadherin subfamily includes N-, P-, R-, B- and E-cadherins as well as about ten other members which are found in adherens junctions, a cellular structure near the apical surface of polarized epithelial cells. The cytoplasmic domain of classical cadherins interacts with  $\beta$ -catenin,  $\gamma$ -catenin (also called plakoglobin) and p120 catenin.  $\beta$ -catenin and  $\gamma$ -catenin associate with  $\alpha$ -catenin, which links the cadherin-catenin complex to the actin cytoskeleton (1,2). Unlike  $\beta$ - and  $\gamma$ -catenin, p120 regulates cadherin adhesive activity and trafficking rather than having a structural role in the junctional complex (1-4). E-cadherin is considered an active suppressor of invasion and growth of many epithelial cancers (1-3). Recent 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 over-expression of MMP-9 and cellular invasion (3). In endothelial cells, VE-cadherin signaling, expression and localization are correlated with vascular permeability and tumor angiogenesis (5,6). Expression of P-cadherin, which is normally present in epithelial cells, is also altered in ovarian and other human cancers (7,8).

**Specificity/Sensitivity:** E-Cadherin Antibody detects endogenous levels of total E-Cadherin protein. The antibody does not cross-react with related family members, such as N-Cadherin.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence surrounding residue 780 of human E-Cadherin. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from A431, MCF-7 and C2C12 cells, using E-Cadherin Antibody. Note the absence of signal from C2C12 cells, which express N-cadherin instead of E-cadherin.



Immunohistochemical analysis of paraffin-embedded human squamous cell carcinoma of the lung, showing membrane localization, using E-Cadherin Antibody.

Entrez-Gene ID #999  
Swiss-Prot Acc. #P12830

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

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

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

**Recommended Antibody Dilutions:**

Western blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:200†
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Rabbit) #8114
† Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.	
Immunofluorescence (IF-IC)	1:100

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

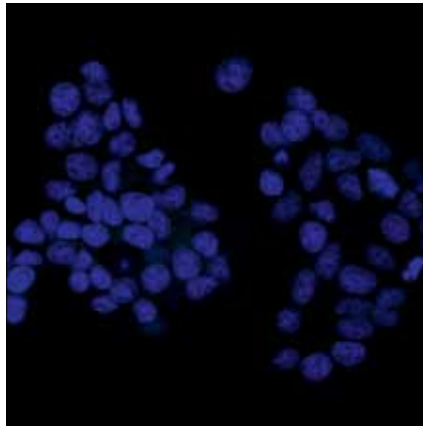
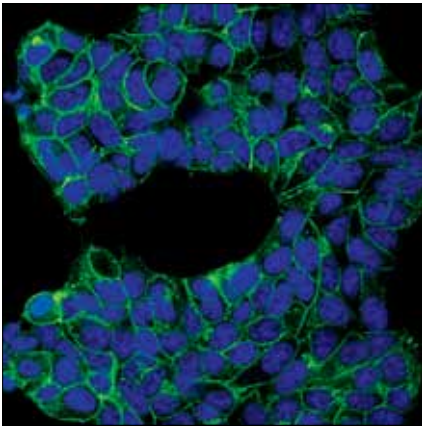
Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

**Background References:**

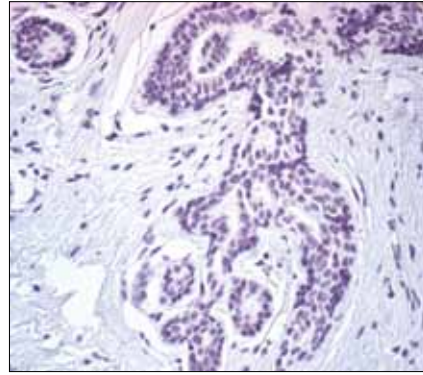
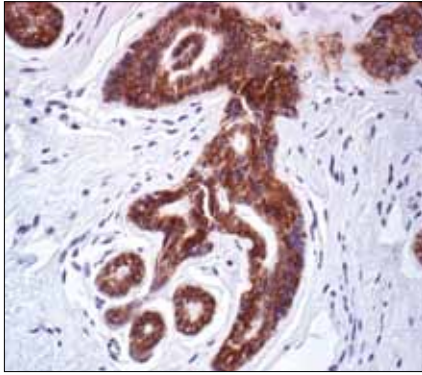
- (1) Wheelock, M.J. and Johnson, K.R. (2003) *Annu. Rev. Cell. Dev. Biol.* 19, 207-235.
- (2) Christofori, G. (2003) *EMBO J.* 22, 2318-2323.
- (3) Hazan, R.B. et al. (2004) *Ann. NY Acad. Sci.* 1014, 155-163.
- (4) Bryant, D.M. and Stow, J.L. (2004) *Trends Cell Biol.* 14, 427-434.
- (5) Rabascio, C. et al. (2004) *Cancer Res.* 64, 4373-4377.
- (6) Yamaoka-Tojo, M. et al. (2006) *Arterioscler. Thromb. Vasc. Biol.* 26, 1991-1997.
- (7) Patel, I.S. et al. (2003) *Int. J. Cancer* 106, 172-177.
- (8) Sanders, D.S. et al. (2000) *J. Pathol.* 190, 526-530.

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

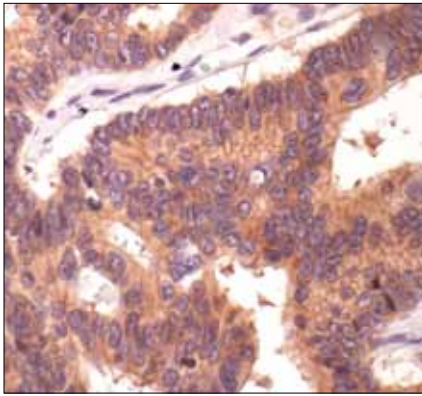
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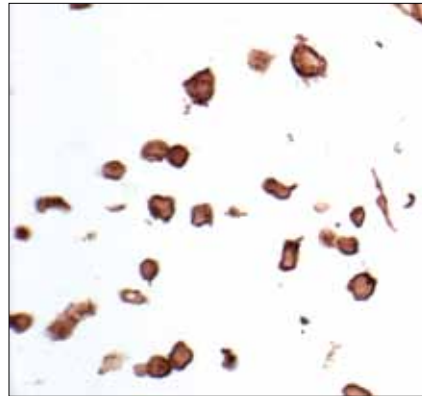
Confocal immunofluorescent images of MCF-7 cells labeled with E-Cadherin Antibody (green, left) compared to an isotype control (right). Blue pseudocolor = DRAQ5® 4084 (fluorescent DNA dye).



Immunohistochemical analysis of paraffin-embedded human breast fibroadenoma, using E-Cadherin Antibody in the presence of control peptide (left) or E-Cadherin Blocking Peptide #1056 (right).



Immunohistochemical analysis of paraffin-embedded human colon carcinoma, using E-Cadherin Antibody.



Immunohistochemical analysis of paraffin-embedded MCF-7 cells, showing membrane localization, using E-Cadherin Antibody.