Store at 4°C

#86770

E-Cadherin (4A2) Mouse mAb (Alexa Fluor® 488 Conjugate)

Cell Signaling TECHNOLOGY®

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Entrez-Gene ID #999
UniProt ID #P12830

New 06/16

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

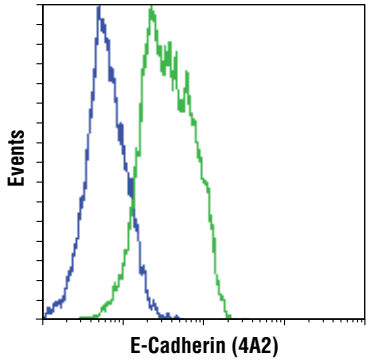
Applications	Species Cross-Reactivity	Isotype
IF-IC, F Endogenous	H, M, R	Mouse IgG1

Description: This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for direct flow cytometric analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated E-Cadherin (4A2) Mouse mAb #14472.

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: E-Cadherin (4A2) Mouse mAb (Alexa Fluor® 488 Conjugate) recognizes endogenous levels of total E-cadherin protein. This antibody does not cross-react with other cadherin proteins.

Source/Purification: Monoclonal antibody is produced by immunizing animals with recombinant protein specific to human E-cadherin protein.



Flow cytometric analysis of HeLa (blue) and MCF7 (green) cells using E-Cadherin (4A2) Mouse mAb (Alexa Fluor® 488 Conjugate).

Storage: Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. *Do not aliquot the antibody. Protect from light. Do not freeze.*

***Species cross-reactivity is determined by western blot using the unconjugated antibody.**

Recommended Antibody Dilutions:

Immunofluorescence (IF-IC)	1:50
Flow Cytometry	1:50

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

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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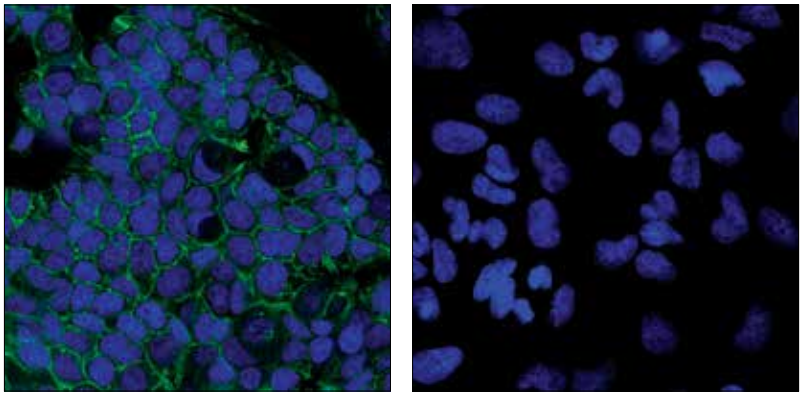
Applications: W—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity: H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

MCF7 **HeLa**



Confocal immunofluorescent analysis of MCF7 (left) and HeLa (right) cells using E-Cadherin (4A2) Mouse mAb (Alexa Fluor® 488 Conjugate) (green). Blue pseudocolor= DRAQ5® #4084 (fluorescent DNA dye).