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


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Applications: IF-IC, FC-FP	Reactivity: H M R	Sensitivity: Endogenous	Source/Isotype: Mouse IgG1	UniProt ID: #P12830	Entrez-Gene Id: 999
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Product Usage Information	Application Immunofluorescence (Immunocytochemistry) Flow Cytometry (Fixed/Permeabilized)	Dilution 1:50 1:50
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.	
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. Species cross-reactivity for IF-F and IF-IC is human only.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with recombinant protein specific to human E-cadherin protein.	
Product 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 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).	
Background References	1. Wheelock, M.J. and Johnson, K.R. (2003) <i>Annu Rev Cell Dev Biol</i> 19, 207-35. 2. Christofori, G. (2003) <i>EMBO J</i> 22, 2318-23. 3. Hazan, R.B. et al. (2004) <i>Ann N Y Acad Sci</i> 1014, 155-63. 4. Bryant, D.M. and Stow, J.L. (2004) <i>Trends Cell Biol</i> 14, 427-34. 5. Rabascio, C. et al. (2004) <i>Cancer Res</i> 64, 4373-7. 6. Yamaoka-Tojo, M. et al. (2006) <i>Arterioscler Thromb Vasc Biol</i> 26, 1991-7. 7. Patel, I.S. et al. (2003) <i>Int J Cancer</i> 106, 172-7. 8. Sanders, D.S. et al. (2000) <i>J Pathol</i> 190, 526-30.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Applications Key	IF-IC: Immunofluorescence (Immunocytochemistry) FC-FP: Flow Cytometry (Fixed/Permeabilized)
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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