

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human P-Cadherin in direct ELISAs and Western blots. In Western blots, does not cross-react with recombinant human (rh) Cadherin-8, recombinant mouse P-Cadherin, or rhVE-Cadherin.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 104805
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human P-Cadherin Asp108-Gly654 Accession # CAA45177
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

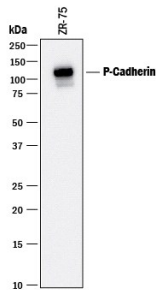
**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	See Below
<b>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	See Below
<b>Immunocytochemistry</b>	8-25 µg/mL	See Below
<b>Simple Western</b>	10 µg/mL	See Below
<b>Human P-Cadherin Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL	Human P-Cadherin Antibody (Catalog # <a href="#">MAB861</a> )
<b>ELISA Detection Standard</b>	0.1-0.4 µg/mL	Human P-Cadherin Biotinylated Antibody (Catalog # <a href="#">BAF861</a> ) Recombinant Human P-Cadherin Fc Chimera (Catalog # <a href="#">861-PC</a> )
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

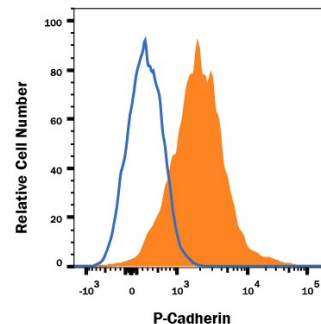
**DATA**

**Western Blot**



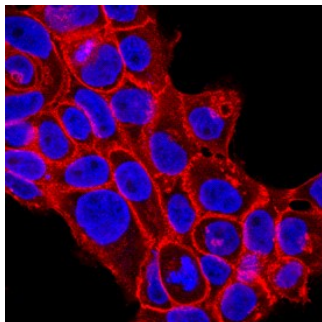
**Detection of Human P-Cadherin by Western Blot.** Western blot shows lysate of ZR-75 human breast cancer cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human P-Cadherin Monoclonal Antibody (Catalog # [MAB861](#)) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # [HAF018](#)). A specific band was detected for P-Cadherin at approximately 120 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

**Flow Cytometry**



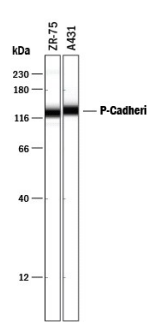
**Detection of P-Cadherin in A431 Human Cell Line by Flow Cytometry.** A431 human carcinoma cell line was stained with Mouse Anti-Human P-Cadherin Monoclonal Antibody (Catalog # [MAB861](#), filled histogram) or isotype control antibody (Catalog # [MAB002](#), open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # [F0101B](#)). Cells were stained in a buffer containing Ca<sup>2+</sup> and Mg<sup>2+</sup>. View our protocol for [Staining Membrane-associated Proteins](#).

**Immunocytochemistry**



**P-Cadherin in A431 Human Cell Line.** P-Cadherin was detected in immersion fixed A431 human epithelial carcinoma cell line using Mouse Anti-Human P-Cadherin Monoclonal Antibody (Catalog # [MAB861](#)) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # [NL007](#)) and counterstained with DAPI (blue). Specific staining was localized to the cell surface. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

**Simple Western**



**Detection of Human P-Cadherin by Simple Western™.** Simple Western lane view shows lysates of ZR-75 human breast cancer cell line and A431 human epithelial carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for P-Cadherin at approximately 135 kDa (as indicated) using 10 µg/mL of Mouse Anti-Human P-Cadherin Monoclonal Antibody (Catalog # [MAB861](#)). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Placental (P) - Cadherin (PCAD) is a member of the Cadherin family of cell adhesion molecules. Cadherins are calcium-dependent transmembrane proteins, which bind to one another in a homophilic manner. On their cytoplasmic side, they associate with the three catenins,  $\alpha$ ,  $\beta$ , and  $\gamma$  (plakoglobin). This association links the cadherin protein to the cytoskeleton. Without association with the catenins, the cadherins are non-adhesive. Cadherins play a role in development, specifically in tissue formation. They may also help to maintain tissue architecture in the adult. P-Cadherin is a classical cadherin molecule. Classical cadherins consist of a large extracellular domain which contains DXD and DXNDN repeats responsible for mediating calcium-dependent adhesion, a single-pass transmembrane domain, and a short carboxy-terminal cytoplasmic domain responsible for interacting with the catenins. Human P-Cadherin is an 829 amino acid (aa) protein with a 26 aa signal sequence and an 803 aa propeptide. The mature protein begins at aa 108 and has a 548 aa extracellular region, a 23 aa transmembrane region, and a 151 aa cytoplasmic region. The human and mouse mature PCAD proteins share 87% homology.

**References:**

1. Shimoyama, Y. *et al.* (1989) J. Cell Biol. **109**:1787.
2. Bussemakers, M.J.G. *et al.* (1993) Mol. Biol. Reports **17**:123.
3. Overduin, M. *et al.* (1995) Science **267**:386.
4. Takeichi, M. (1991) Science **251**:1451.
5. Nose, A. *et al.* (1987) EMBO J. **6**:3655.