# Human/Mouse E-Cadherin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF648

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Human/Mouse |
| **Specificity** | Detects human E-Cadherin in direct ELISAs and Western blots. |
| **Source** | Polyclonal Goat IgG |
| **Purification** | Antigen Affinity-purified |
| **Immunogen** | Mouse myeloma cell line NS0-derived recombinant human E-Cadherin<br>Asp155-Ile707<br>Accession # P12830 |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS. |

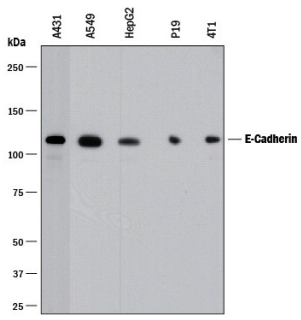
## APPLICATIONS

**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.*

| | Recommended Concentration | Sample |
|---|---|---|
| **Western Blot** | 0.5 µg/mL | See Below |
| **Flow Cytometry** | 0.25 µg/$10^6$ cells | See Below |
| **Immunocytochemistry** | 5-15 µg/mL | See Below |
| **Immunohistochemistry** | 0.3-15 µg/mL | See Below |
| **Simple Western** | 5 µg/mL | See Below |
| **CyTOF-ready** | Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation. | |

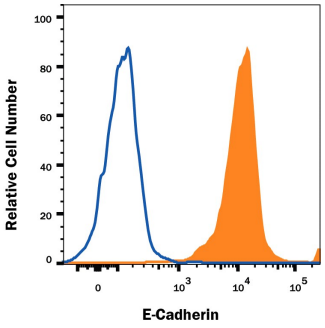
## DATA

### Western Blot



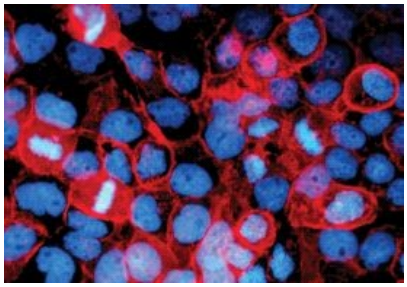

**Detection of Human and Mouse E-Cadherin by Western Blot.** Western blot shows lysates of A431 human epithelial carcinoma cell line, A549 human lung carcinoma cell line, HepG2 human hepatocellular carcinoma cell line, P19 mouse embryonal carcinoma cell line, and 4T1 mouse breast cancer cell line. PVDF membrane was probed with 0.5 µg/mL of Goat Anti-Human/Mouse E-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF648) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for E-Cadherin at approximately 110 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

### Flow Cytometry



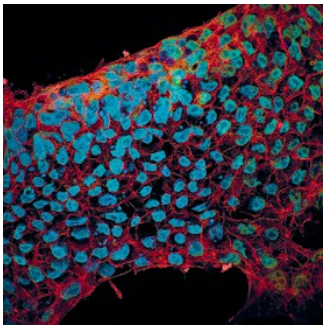

**Detection of E-Cadherin in MCF-7 Human Cell Line by Flow Cytometry.** MCF-7 human breast cancer cell line was stained with Goat Anti-Human/Mouse E-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF648, filled histogram) or isotype control antibody (Catalog # AB-108-C, open histogram), followed by Allophycocyanin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0108). View our protocol for Staining Membrane-associated Proteins.

### Immunocytochemistry



**E-Cadherin in Human Epidermoid Carcinoma Cells.** E-Cadherin was detected in immersion fixed human epidermoid carcinoma cells using 10 µg/mL Goat Anti-Human/Mouse E-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF648) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

### Immunocytochemistry



**E-Cadherin and SOX2 in BG01V Human Stem Cells.** E-Cadherin and SOX2 were detected in BG01V human embryonic stem cells using 10 µg/mL Goat Anti-Human/Mouse E-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF648) and 10 µg/mL Human/Mouse SOX2 Monoclonal Antibody (Catalog # MAB2018). Cells were incubated with primary antibodies for 3 hours at room temperature. Cells were stained for E-Cadherin using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (green; Catalog # NL001) and for SOX2 using the NorthernLights 493-conjugated Anti-Mouse Secondary Antibody (red; Catalog # NL009). Cells were counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.



bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

# Human/Mouse E-Cadherin Antibody

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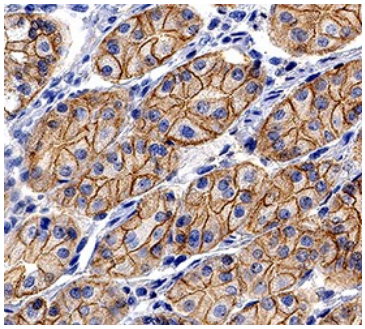
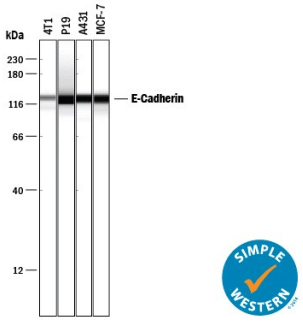
**Immunohistochemistry**



**E-Cadherin in Human Stomach.** E-Cadherin was detected in immersion fixed paraffin-embedded sections of human stomach using Goat Anti-Human/Mouse E-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF648) at 0.3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cell membrane and cytoplasm in gastric glands. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

**Simple Western**




**Detection of Human and Mouse E-Cadherin by Simple Western™.** Simple Western lane view shows lysates of 4T1 mouse breast cancer cell line, P19 mouse embryonal carcinoma cell line, A431 human epithelial carcinoma cell line, and MCF-7 human breast cancer cell line, loaded at 0.2 mg/mL. A specific band was detected for E-Cadherin at approximately 128 kDa (as indicated) using 5 µg/mL of Goat Anti-Human/Mouse E-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF648) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

## PREPARATION AND STORAGE

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|---|---|
| **Reconstitution** | Reconstitute at 0.2 mg/mL in sterile PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

## BACKGROUND

Epithelial (E)-Cadherin (ECAD), also known as cell-CAM120/80 in the human, uvomorulin in the mouse, Arc-1 in the dog, and L-CAM in the chicken, 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, α, β, and γ (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. E-Cadherin may also play a role in tumor development, as loss of E-Cadherin has been associated with tumor invasiveness. E-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. E-Cadherin contains five extracellular calcium-binding domains of approximately 110 amino acids each.

**References:**


1. Bussemakers, M.J.G. *et al.* (1993) Mol. Biol. Reports **17**:123.
2. Overduin, M. *et al.* (1995) Science **267**:386.
3. Takeichi, M. (1991) Science **251**:1451.




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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449