

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 Asp155-Ile707 Accession # P12830
Formulation	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.

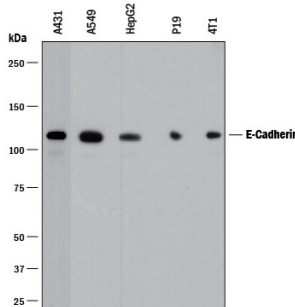
APPLICATIONS

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.

	Recommended Concentration	Sample
Dual RNAscope ISH-IHC Compatible	0.3-15 µg/mL	See Below
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.	

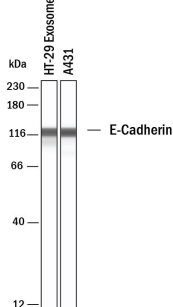
DATA

Western Blot

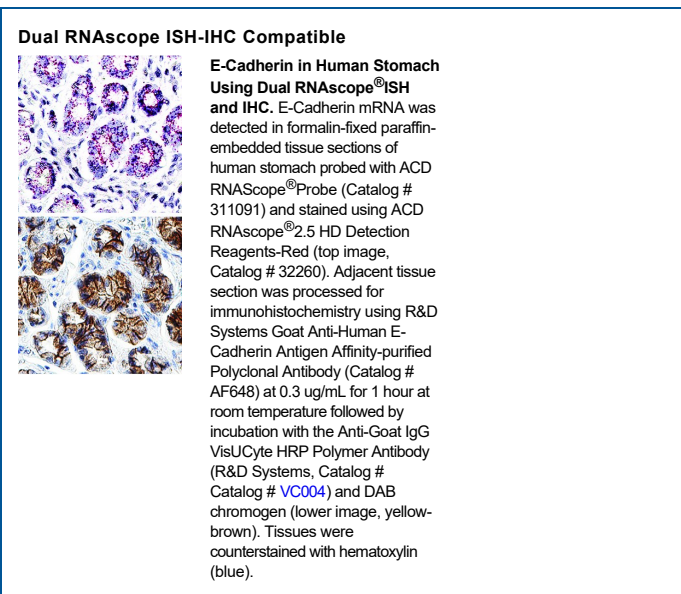
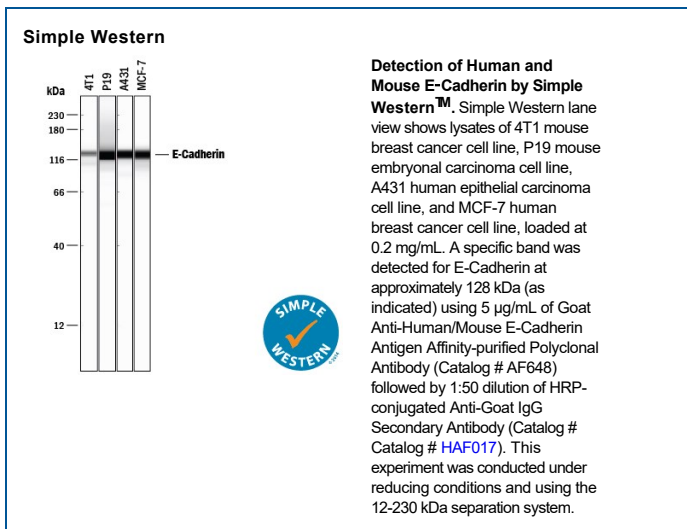
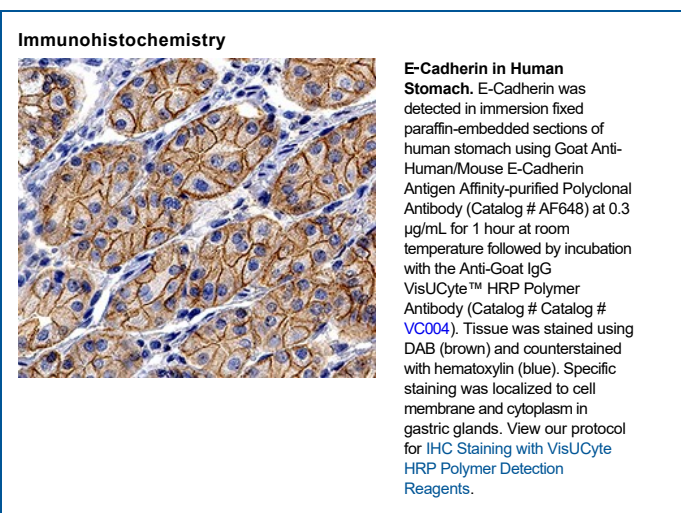
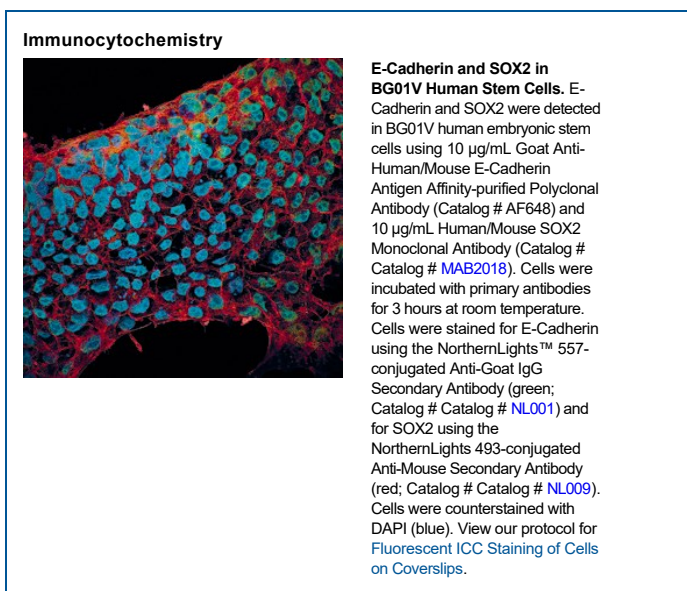
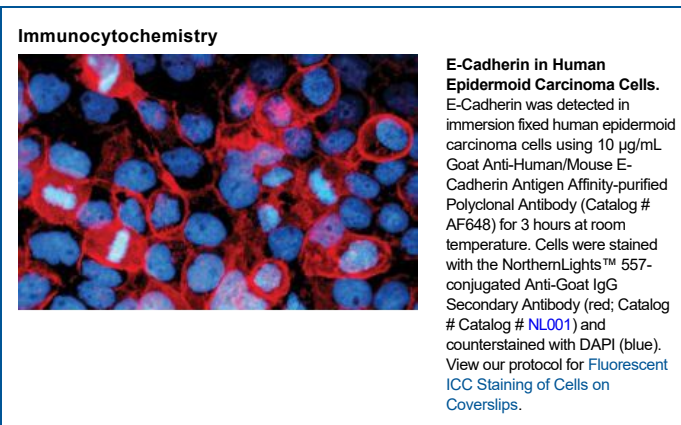
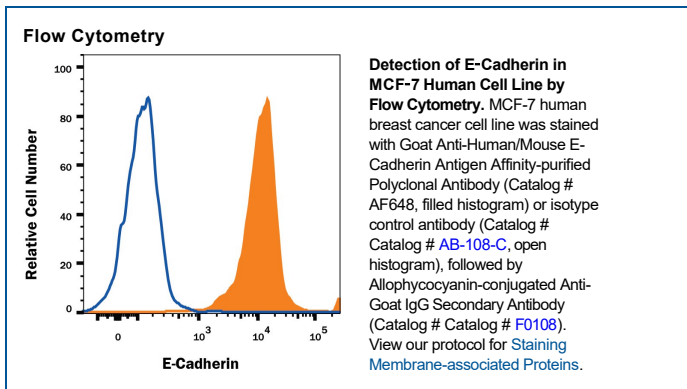


Detection of Human and Mouse E-Cadherin by Western Blot. Western blot shows lysates of A431 human epithelial carcinoma cell line, A549 human lung carcinoma cell line, HepG2 human hepatocellular carcinoma cell line, P19 mouse embryonal carcinoma cell line, and 4T1 mouse breast cancer cell line. PVDF membrane 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.

Simple Western

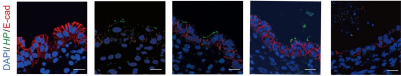


Detection of Human E-Cadherin by Simple Western™. Simple Western lane view shows lysates of Exosome Standards (HT-29) (Catalog # NBP3-11685) and A431 human epithelial carcinoma cell line, loaded at 0.5 mg/ml. A specific band was detected for E-Cadherin at approximately 123 kDa (as indicated) using 5 µg/ml of Goat Anti-Human/Mouse E-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF648) followed by HRP-conjugated Donkey Anti-Goat Secondary Antibody (Catalog # 042-206). This experiment was conducted under reducing conditions and using the 12-230kDa separation system.



Immunocytochemistry/ Immunofluorescence

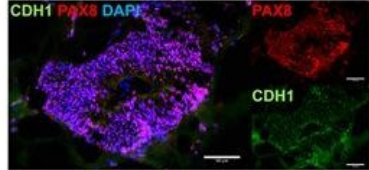
b No infection NCTC11637 AcagA Hp_TH2099 26695



Detection of Human E-Cadherin by Immunocytochemistry/Immunofluorescence Impact of H. pylori infection on ES cell-derived gastric organoids. (a) HE staining of ES-cell derived gastric organoids infected with H. pylori for 12 hours. Scale bar: 200 µm. (b) Immunostaining of gastric organoids infected with H. pylori for 12 hours. "No infection" indicates that the organoid was injected with bacteria-free Brucella Broth. HP, H. pylori; E-cad, E-cadherin. Scale bar: 10 µm. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30374120>), licensed under a CC-BY license. Not internally tested by R&D Systems.

Immunocytochemistry/ Immunofluorescence

e



Detection of Human E-Cadherin by Immunocytochemistry/Immunofluorescence Development and Characterization of an iPSC-Derived Fallopian Tube Organoid. (a) Schematic of factors involved in the differentiation of fallopian tube organoids. (b) Bright field image and H&E staining of FTE organoid at day 14. (c-e) Immunocytochemistry for FTE markers TUBB4A, FOXJ1 and PAX8 and epithelial marker CDH1 (E-Cadherin) at organoid culture day 14. (f) Immunocytochemistry for FTE markers PAX8, TUBB4A, OVG1 and epithelial marker CDH1 at FTE organoid culture day 45, along with human fallopian tube tissue. (g) Immunocytochemistry for FTE markers TUBB4A and PAX8 at FTE organoid culture day 45. (h) Gene expression of fallopian tube markers OVG1 (for 2 different primers), FOXJ1, TNFaP2 and PAX8, as well as kidney markers SALL1 and FOXD1 at organoids culture day 45, human fallopian tube and kidney. The color matrix of the heat map represents the log2(Ratio) of each individual gene relative to its expression at the iPSC stage. Relative gene expression to iPSC stage (day 0) was calculated using $\Delta\Delta C_t$ method and normalized to endogenous GAPDH level for 87iCTR-n3 iPSC line (i) H&E staining of FTE organoid at culture day 45 and day 180, and human fallopian tube tissue. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/28878359>), licensed under a CC-BY license. Not internally tested by R&D Systems.

Immunohistochemistry

Detection of Mouse E-Cadherin by Immunohistochemistry
 Immunohistological visualization of engineered EcN strains in tissue sections. These sections are taken from proximal colons of mice receiving different bacteria. Sectioning protocol was designed to preserve mucus and luminal content. Sections were stained with fluorescently labeled antibodies: anti-E-cadherin (green), anti-Muc2 (red), and anti-LPS (blue). The first column shows bright-field images of the sections. The last column shows an overlay of all stains. The white dotted lines represent the boundary of the epithelium and mucus layers. The leftmost parts represent the epithelium, the center parts represent the mucus layers and the rightmost parts represent the lumen (scale bar = 100 µm). Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31811125/>), licensed under a CC-BY license. Not internally tested by R&D Systems.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 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.