10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-E Cadherin 1 CDH1 Antibody Picoband™ (monoclonal, 9G2)

Catalog # ABO14856

Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	P12830
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-E Cadherin 1 CDH1 Antibody Picoband™ (monoclonal, 9G2) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	999
Other Names	Cadherin-1 {ECO:0000312|HGNC:HGNC:1748}, CAM 120/80, Epithelial cadherin, E-cadherin {ECO:0000312|HGNC:HGNC:1748}, Uvomorulin, CD324, E-Cad/CTF1, E-Cad/CTF2, E-Cad/CTF3, CDH1 (HGNC:1748)
Calculated MW	97456
Application Details	Western blot, 0.1-0.5 □g/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1 □g/ml Immunocytochemistry/Immunofluorescence, 2 □g/ml Flow Cytometry, 1-3 □g/1x10^6 cells
Subcellular Localization	Trans-Golgi network. Cell membrane. Single-pass type I membrane protein. Endosome. Cell junction.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Clone Names	Clone: 9G2
Immunogen	E.coli-derived human E Cadherin recombinant protein (Position: A286-A703). Human E Cadherin shares 79.7% and 80.9% amino acid (aa) sequence identity with mouse and rat E Cadherin, respectively.

Cross Reactivity	No cross-reactivity with other proteins.
Storage	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.

Protein Information

Name	CDH1 (HGNC:1748)
Function	Cadherins are calcium-dependent cell adhesion proteins (PubMed:11976333). They preferentially interact with themselves in a homophilic manner in connecting cells; cadherins may thus contribute to the sorting of heterogeneous cell types. CDH1 is involved in mechanisms regulating cell-cell adhesions, mobility and proliferation of epithelial cells (PubMed:11976333). Promotes organization of radial actin fiber structure and cellular response to contractile forces, via its interaction with AMOTL2 which facilitates anchoring of radial actin fibers to CDH1 junction complexes at the cell membrane (By similarity). Plays a role in the early stages of desmosome cell-cell junction formation via facilitating the recruitment of DSG2 and DSP to desmosome plaques (PubMed:29999492). Has a potent invasive suppressor role. It is a ligand for integrin alpha-E/beta-7.
Cellular Location	Cell junction, adherens junction. Cell membrane; Single-pass type I membrane protein. Endosome. Golgi apparatus, trans-Golgi network. Cytoplasm. Cell junction, desmosome. Note=Colocalizes with DLGAP5 at sites of cell-cell contact in intestinal epithelial cells. Anchored to actin microfilaments through association with alpha-, beta- and gamma- catenin. Sequential proteolysis induced by apoptosis or calcium influx, results in translocation from sites of cell-cell contact to the cytoplasm. Colocalizes with RAB11A endosomes during its transport from the Golgi apparatus to the plasma membrane. Recruited to desmosomes at the initial assembly phase and also accumulates progressively at mature desmosome cell-cell junctions (PubMed:25208567, PubMed:29999492) Localizes to cell-cell contacts as keratinocyte differentiation progresses (By similarity). {ECO:0000250|UniProtKB:P09803, ECO:0000269|PubMed:25208567, ECO:0000269|PubMed:29999492}
Tissue Location	Expressed in granuloma macrophages (at protein level) (PubMed:27760340). Expressed in the skin (at protein level) (PubMed:22294297). Expressed in the basal epithelial layer of the esophageal epithelium (at protein level) (PubMed:24220297). Expressed in the liver (PubMed:3263290).

Background

CDH1 (Cadherin 1), also known as ECAD or UVO, is a protein that in humans is encoded by the CDH1 gene. Cadherin-1 is a classical member of the cadherin superfamily. By Southern analysis of DNA from a panel of mouse-human somatic cell hybrids, Mansouri et al. (1987, 1988) assigned the UVO gene to 16q (16p11-qter). Frebourg et al. (2006) found that in human embryos CDH1 is highly expressed at 4 and 5 weeks in the frontonasal prominence and at 6 weeks in the lateral and medial nasal prominences, and is therefore expressed during critical stages of lip and palate development. CDH1 is involved in mechanisms regulating cell-cell adhesions, mobility and proliferation of epithelial cells. Has a potent invasive suppressor role. It is a ligand for integrin alpha-E/beta-7.

Images

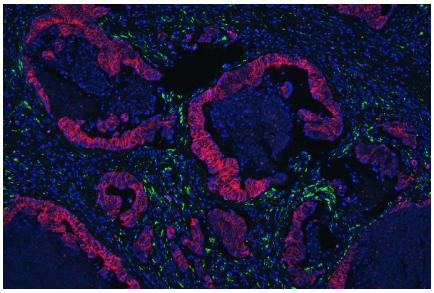


Figure 1. IF analysis of COL4A1/E Cadherin using anti-COL4A1/E Cadherin antibody (PB9099/M00063-2)
COL4A1/E Cadherin was detected in paraffin-embedded section of human colon cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/mL rabbit anti-COL4A1 Antibody (PB9099)/mouse anti E Cadherin Antibody(M00063-2) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) /Cy3 conjugated Goat anti mouse IgG(BA1031),were used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

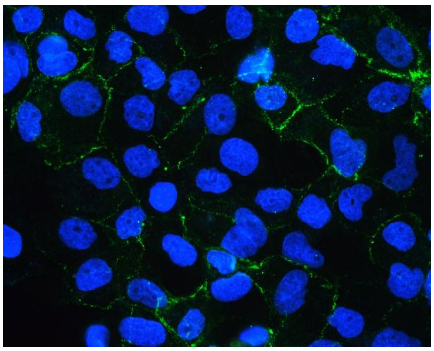


Figure 2. IF analysis of E Cadherin using anti-E Cadherin antibody (M00063-2).
E Cadherin was detected in immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2 µg/mL mouse anti-E Cadherin Antibody (M00063-2) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

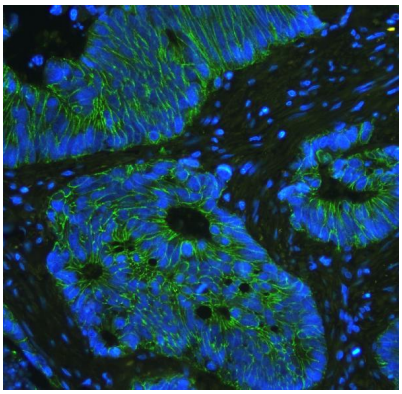


Figure 3. IF analysis of E Cadherin using anti-E Cadherin antibody (M00063-2).
E-cadherin was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/mL mouse anti-E Cadherin Antibody (M00063-2) overnight at 4°C. Biotin conjugated goat anti-mouse IgG (BA1001) was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using DyLight®488 Conjugated Avidin (BA1128). The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

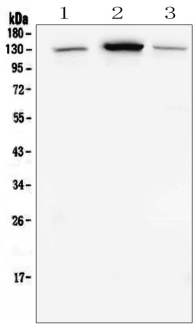


Figure 4. Western blot analysis of E Cadherin using anti-E Cadherin antibody (M00063-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human placenta tissue lysates,
Lane 2: human A549 whole cell lysates,
Lane 3: human HEK293 whole cell lysates,
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5

hour at RT. The membrane was incubated with mouse anti-E Cadherin antigen affinity purified polyclonal antibody (Catalog # M00063-2) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for E Cadherin at approximately 130KD. The expected band size for E Cadherin is at 97KD.

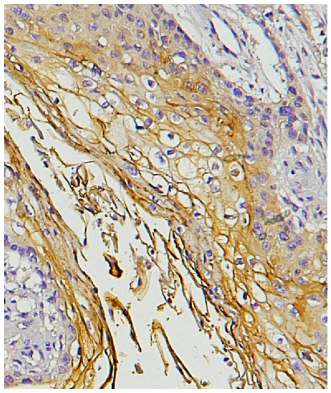


Figure 5. IHC analysis of E Cadherin using anti-E Cadherin antibody (M00063-2).
E Cadherin was detected in paraffin-embedded section of human oesophagus squama cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-E Cadherin Antibody (M00063-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

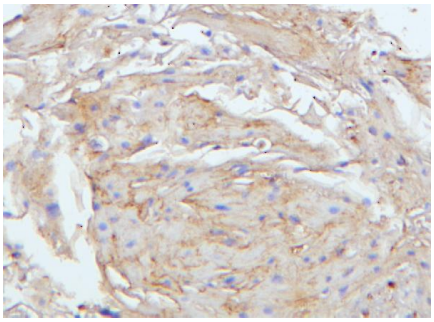


Figure 6. IHC analysis of E Cadherin using anti-E Cadherin antibody (M00063-2).
E Cadherin was detected in paraffin-embedded section of human oesophagus squama cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-E Cadherin Antibody (M00063-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

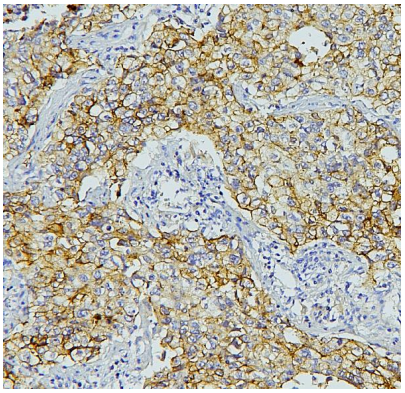
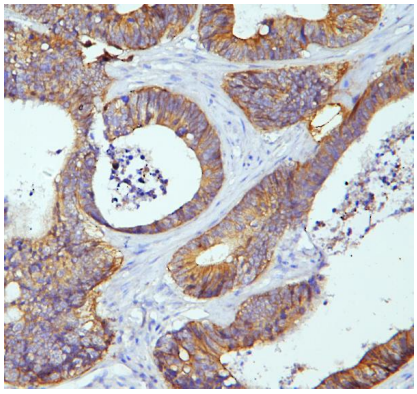


Figure 7. IHC analysis of E Cadherin using anti-E Cadherin antibody (M00063-2).
E Cadherin was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-E Cadherin Antibody (M00063-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

Figure 8. IHC analysis of E Cadherin using anti-E Cadherin antibody (M00063-2).
E Cadherin was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope



retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-E Cadherin Antibody (M00063-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

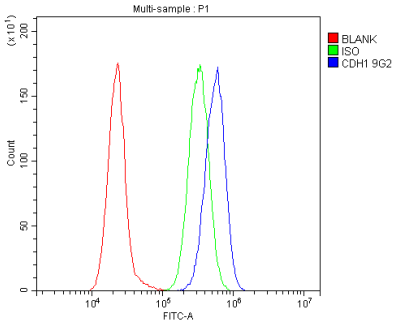


Figure 9. Flow Cytometry analysis of A549 cells using anti-CA2 antibody (M00063-2).
Overlay histogram showing A549 cells stained with M00063-2 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-CA2 Antibody (M00063-2, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.