

Product datasheet

Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker ab1416

★★★★☆ [42 Abreviews](#) [573 References](#) [8 Images](#)

Overview

Product name	Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker
Description	Mouse monoclonal [HECD-1] to E Cadherin - Intercellular Junction Marker
Host species	Mouse
Tested applications	Suitable for: IHC-P, Flow Cyt, WB
Species reactivity	Reacts with: Human Does not react with: Mouse
Immunogen	This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: MDA-MB-468 and LNCaP whole cell lysates; MCF7 cell lysate. IHC-P: Breast cancer tissue; Human stomach tissue. Flow Cyt: MCF7 and A431 cells.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.1% Sodium azide Constituents: 97.5% Water, 0.99% BSA, 0.33% Tris HCl, 0.04% Tween, 0.007% Hydrochloric acid
Purity	Ascites
Purification notes	This product is ascites-derived.
Clonality	Monoclonal
Clone number	HECD-1

Myeloma	unknown
Isotype	IgG1
Light chain type	unknown

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab1416 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★★ (8)	Use at an assay dependent concentration.
Flow Cyt	★★★★★ (1)	1/100. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
WB	★★★★★ (15)	1/50.

Target

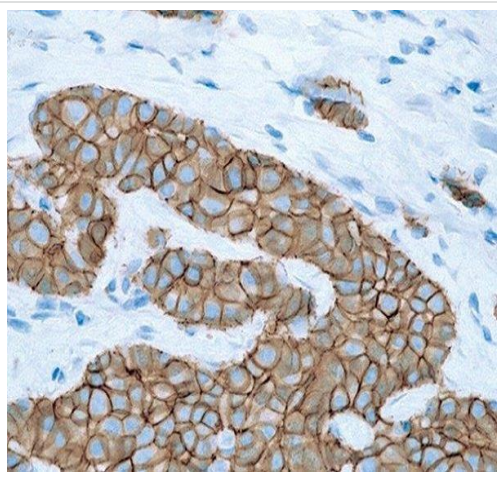
Function	<p>Cadherins are calcium-dependent cell adhesion proteins. They preferentially interact with themselves in a homophilic manner in connecting cells; cadherins may thus contribute to the sorting of heterogeneous cell types. CDH1 is involved in mechanisms regulating cell-cell adhesions, mobility and proliferation of epithelial cells. Has a potent invasive suppressor role. It is a ligand for integrin alpha-E/beta-7.</p> <p>E-Cad/CTF2 promotes non-amyloidogenic degradation of Abeta precursors. Has a strong inhibitory effect on APP C99 and C83 production.</p>
Tissue specificity	Non-neural epithelial tissues.
Involvement in disease	<p>Defects in CDH1 are the cause of hereditary diffuse gastric cancer (HDGC) [MIM:137215]. An autosomal dominant cancer predisposition syndrome with increased susceptibility to diffuse gastric cancer. Diffuse gastric cancer is a malignant disease characterized by poorly differentiated infiltrating lesions resulting in thickening of the stomach. Malignant tumors start in the stomach, can spread to the esophagus or the small intestine, and can extend through the stomach wall to nearby lymph nodes and organs. It also can metastasize to other parts of the body. Note=Heterozygous germline mutations CDH1 are responsible for familial cases of diffuse gastric cancer. Somatic mutations in the has also been found in patients with sporadic diffuse gastric cancer and lobular breast cancer.</p> <p>Defects in CDH1 are a cause of susceptibility to endometrial cancer (ENDMC) [MIM:608089].</p> <p>Defects in CDH1 are a cause of susceptibility to ovarian cancer (OC) [MIM:167000]. Ovarian cancer common malignancy originating from ovarian tissue. Although many histologic types of ovarian neoplasms have been described, epithelial ovarian carcinoma is the most common form. Ovarian cancers are often asymptomatic and the recognized signs and symptoms, even of late-stage disease, are vague. Consequently, most patients are diagnosed with advanced disease.</p>
Sequence similarities	Contains 5 cadherin domains.
Post-translational modifications	During apoptosis or with calcium influx, cleaved by a membrane-bound metalloproteinase (ADAM10), PS1/gamma-secretase and caspase-3 to produce fragments of about 38 kDa (E-

CAD/CTF1), 33 kDa (E-CAD/CTF2) and 29 kDa (E-CAD/CTF3), respectively. Processing by the metalloproteinase, induced by calcium influx, causes disruption of cell-cell adhesion and the subsequent release of beta-catenin into the cytoplasm. The residual membrane-tethered cleavage product is rapidly degraded via an intracellular proteolytic pathway. Cleavage by caspase-3 releases the cytoplasmic tail resulting in disintegration of the actin microfilament system. The gamma-secretase-mediated cleavage promotes disassembly of adherens junctions.

Cellular localization

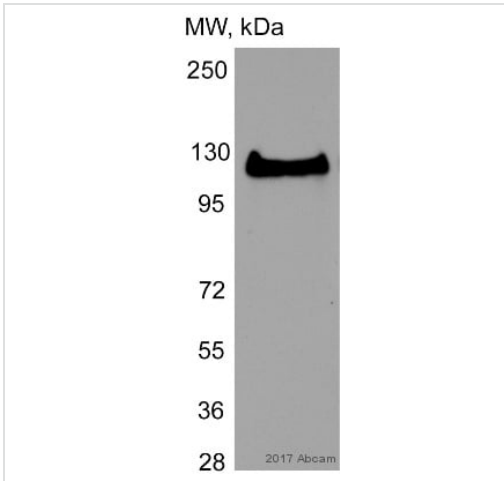
Cell junction. Cell membrane. Endosome. Golgi apparatus > trans-Golgi network. Colocalizes with DLGAP5 at sites of cell-cell contact in intestinal epithelial cells. Anchored to actin microfilaments through association with alpha-, beta- and gamma-catenin. Sequential proteolysis induced by apoptosis or 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.

Images



Immunohistochemical analysis of human breast cancer tissue labeling E Cadherin with ab1416.

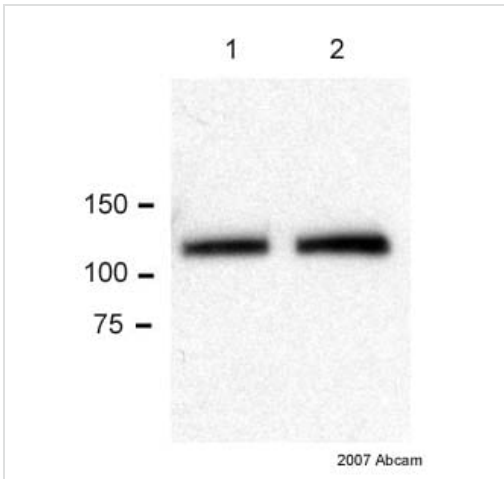
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416)



Western blot - Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416)

This image is courtesy of an Abreview submitted by Dr. Armen Petrosyan.

Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416) at 1/50 dilution + LNCaP (human prostate cancer cell line) whole cell lysate



Western blot - Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416)

This image is courtesy of an Abreview submitted by Dr Alban Gaultier

All lanes : Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416) at 1/1000 dilution

All lanes : MDA-MB-468 cells whole cell lysate

Lysates/proteins at 80 µg/ml per lane.

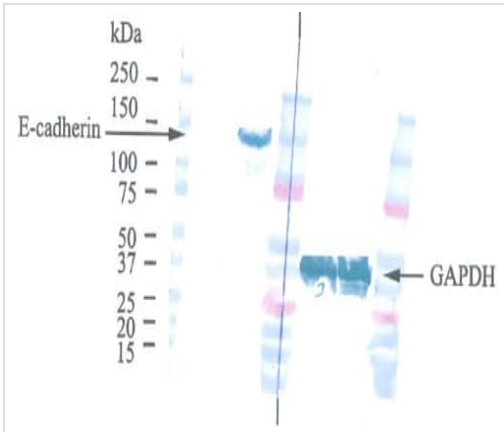
Secondary

All lanes : HRP-conjugated polyclonal donkey anti-mouse IgG

Performed under reducing conditions.

Observed band size: 110 kDa

Exposure time: 30 seconds



Western blot - Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416)

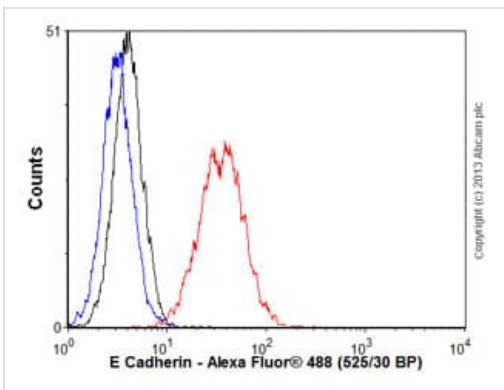
Lanes 1-2 : Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416) at 1/50 dilution

Lanes 3-4 : Anti-GAPDH at 1 µg/ml

Lanes 1 & 3 : MDA-MB-231 cell lysate

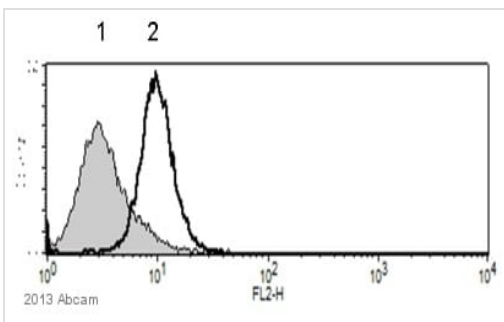
Lanes 2 & 4 : MCF-7 cell lysate

Blocking buffer: 3% milk



Flow Cytometry - Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416)

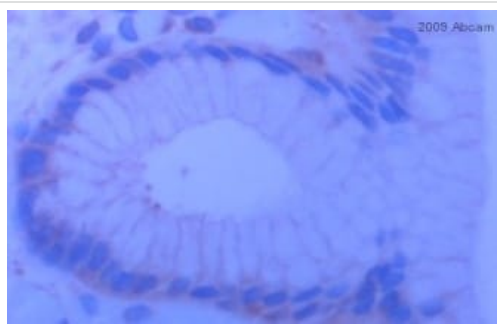
Overlay histogram showing MCF7 cells stained with ab1416 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab1416, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor[®] 488 goat anti-mouse IgG (H+L) ([ab150113](#)) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] ([ab91353](#), 1µg/1x10⁶ cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.



Flow Cytometry - Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416)

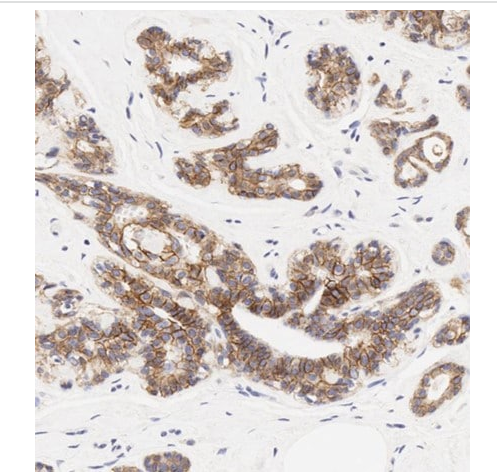
This image is courtesy of anonymous Abreview.

Flow cytometric analysis of A431 (human epidermoid carcinoma cell line) cell line labeling E Cadherin with ab1416 at 1/100 dilution (2) compared with an isotype control (1).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416)
This image is a courtesy of Anonymous Abreview

ab1416 staining E Cadherin in human stomach tissue section by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Tissue underwent formaldehyde fixation before heat mediated antigen retrieval in Citrate pH 6.0 and then blocking with 5% serum for 1 hour at 23°C was performed. The primary antibody was diluted 1/100 and incubated with sample for 1 hour at 23°C. A HRP conjugated goat polyclonal to mouse IgG was used undiluted as secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-E Cadherin antibody [HECD-1] - Intercellular Junction Marker (ab1416)

Immunohistochemistry of human breast carcinoma staining E Cadherin with ab1416 at 5µg/ml

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