Website: thermofisher.com
Customer Service (US): 1 800 955 6288 ext. 1
Technical Support (US): 1 800 955 6288 ext. 441
thermofisher.com/contactus

Performance guaranteed

E-cadherin Monoclonal Antibody (NCH-38)

Catalog Number **MA5-12547**

Product data sheet

Details	
Size	500 µL
Host/Isotope	Mouse / IgG1, kappa
Class	Monoclonal
Type	Antibody
Clone	NCH-38
Immunogen	E-cadherin and GST recombinant protein
Conjugate	Unconjugated
Form	Liquid
Concentration	Conc. Not Determined
Storage buffer	tissue culture supernatant
Contains	0.09% sodium azide
Storage Conditions	4° C

Species Reactivity	
Species reactivity	Human, Mouse
Published species	Rat, Mouse, Human, Not Applicable

Tested Applications	Dilution *
Immunohistochemistry (Paraffin) (IHC (P))	1:5-1:10
Western Blot (WB)	1:250
Immunocytochemistry (ICC/IF)	1:200

Published Applications	
Immunohistochemistry (IHC)	See 7 publications below
Immunocytochemistry (ICC/IF)	See 2 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

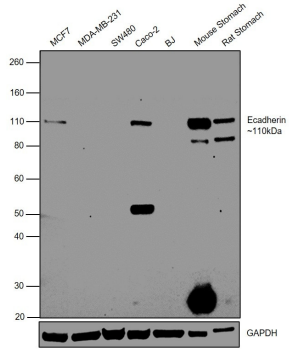
MA5-12547 targets E-Cadherin in IHC (P) applications and shows reactivity with Human samples. The MA5-12547 immunogen is e-cadherin and GST recombinant protein.

Background/Target Information

E-Cadherin (epithelial cadherin) is a classical cadherin from the cadherin (alcium dependent adhesion protein) superfamily. The encoded protein is a calcium dependent cell-cell adhesion glycoprotein comprised of five extracellular cadherin repeats, a transmembrane region and a highly conserved cytoplasmic tail. Mutations in this gene are correlated with gastric, breast, colorectal, thyroid and ovarian cancer. Loss of function is thought to contribute to progression in cancer by increasing proliferation, invasion, and/or metastasis. The ectodomain of this protein mediates bacterial adhesion to mammalian cells and the cytoplasmic domain is required for internalization. Identified transcript variants arise from mutation at consensus splice sites. E-cadherin plays a central role in the growth and development of cells by controlling tissue architecture, and maintenance of tissue integrity. In humans, E-cadherin is encoded by the CDH1 gene present on chromosome 16. Studies have demonstrated that reduction and/or loss of E-cadherin expression in carcinomas correlates positively with the potential of these tumors for invasion and metastasis.

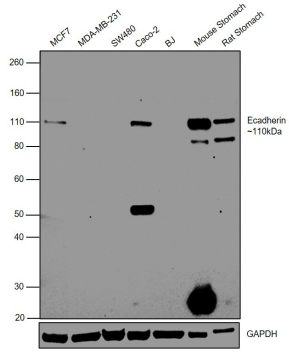
For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Product Images For E-cadherin Monoclonal Antibody (NCH-38)



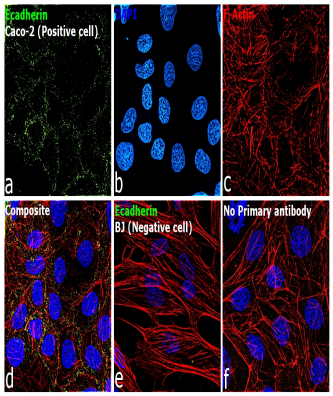
E-cadherin Antibody (MA5-12547) in WB

Western blot was performed using Anti-E-cadherin Monoclonal Antibody (NCH-38)(Product # MA5-12547) and a 110kDa band corresponding to E-cadherin was observed across in all tested cell lines and tissues, except MDA-MB-231, SW480 and BJ. Whole cell extracts (30 µg lysate) of MCF7 (Lane 1), MDA-MB-231 (Lane 2), SW480 (Lane 3), Caco-2 (Lane 4), BJ (Lane 5), Mouse Stomach (Lane 6), Rat Stomach (Lane 7) were electrophoresed using NuPAGE™ 4-12% Bis-Tris Protein Gel (Product # NP0322BOX). Resolved proteins were then transferred onto a Nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (1:250) and detected by chemiluminescence with Goat anti-Mouse IgG (H+L) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A28177,1:4000) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using SuperSignal™ West Dura Extended Duration Substrate (Product # 34076). The additional bands at ~80kDa represent proteolytic cleavage products of E-cadherin.



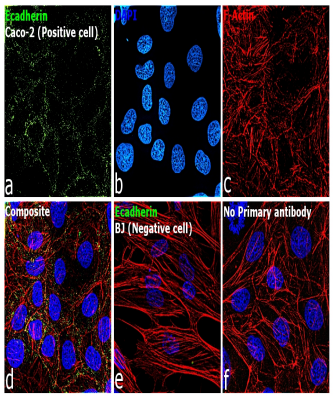
E-cadherin Antibody (MA5-12547)

Antibody specificity was demonstrated by detection of differential basal expression of the target across the cell lines tested owing to their inherent genetic constitution. Relative expression of E-cadherin was observed in all tested cell lines except MDA-MB-231, SW480 and BJ using Anti-E-cadherin Monoclonal Antibody (NCH-38) (Product # MA5-12547) in Western Blot. {RE}



E-cadherin Antibody (MA5-12547) in ICC/IF

Immunofluorescence analysis of E-cadherin was performed using 70 percent confluent log phase Caco-2 cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 2% BSA for 45 minutes at room temperature. The cells were labeled with E-cadherin Monoclonal Antibody (NCH-38) (Product # MA5-12547) at 1:200 in 0.1% BSA, incubated at 4 degree celsius overnight and then labeled with Goat anti-Mouse IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor Plus 488 (Product # A32723), (1:2000), for 45 minutes at room temperature (Panel a: Green). Nuclei (Panel b: Blue) were stained with ProLong™ Diamond Antifade Mountant with DAPI (Product # P36962). F-actin (Panel c: Red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing plasma membrane localization. Panel e represents BJ cells, showing no expression of E-cadherin. Panel f represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.

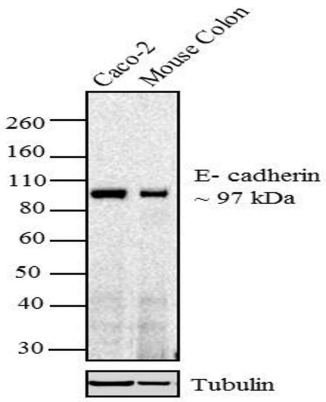


E-cadherin Antibody (MA5-12547)

Antibody specificity was demonstrated by detection of differential basal expression of the target across cell models owing to their inherent genetic constitution. Immunofluorescence analysis using Anti-E-cadherin Monoclonal Antibody (NCH-38) (Product # MA5-12547), shows plasma membrane localization in Caco-2, and no expression in BJ. {RE}

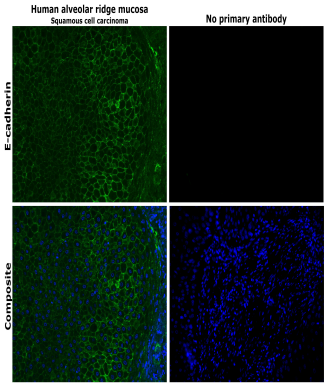
Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA

thermofisher.com/contactus



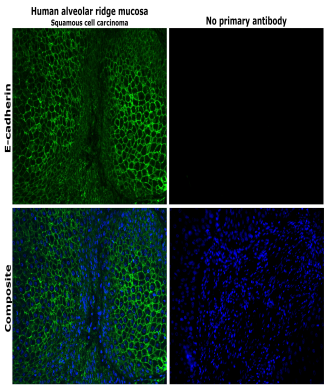
E-cadherin Antibody (MA5-12547) in WB

Western blot analysis of E-Cadherin was performed using whole cell extract and tissue lysate of Caco-2 (Lane 1) and Mouse Colon (Lane 2). The blot was probed with Anti-E-cadherin Mouse Monoclonal Antibody (Product # MA5-12547, 1:250 dilution) and detected by chemiluminescence using Goat anti-Mouse IgG (H+L) Superclonal™ Secondary Antibody, HRP conjugate (Product # A28177, 0.4 µg/mL, 1:2500 dilution). A 97 kDa band corresponding to E-Cadherin was observed across cell lines tested. Known quantity of protein samples were electrophoresed using Novex® NuPAGE® 4-12 % Bis-Tris gel (Product # NP0321BOX), XCell SureLock™ Electrophoresis System (Product # EI0002) and Novex® Sharp Pre-Stained Protein Standard (Product # LC5800). Resolved proteins were then transferred onto a nitrocellulose membrane by overnight transfer method. The membrane was probed with the relevant primary and secondary Antibody using iBind™ Flex Western Starter Kit (Product # SLF2000S). Chemiluminescent detection was performed using Pierce™ ECL Western Blotting Substrate (Product # 32106).



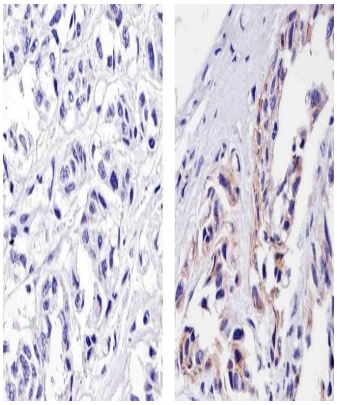
E-cadherin Antibody (MA5-12547) in IHC (P)

Immunohistochemical analysis of E-cadherin was performed using formalin-fixed paraffin-embedded human alveolar ridge mucosa (squamous cell carcinoma) tissue sections. To expose the target protein, heat-induced epitope retrieval was performed on de-paraffinized sections using eBioscience™ IHC Antigen Retrieval Solution - High pH (10X) (Product # 00-4956-58) diluted to 1X solution in water in a decloaking chamber at 110 degree Celsius for 15 minutes. Following antigen retrieval, the sections were blocked with 3% H2O2 for 1 h at room temperature followed by 2% normal goat serum in 1X PBS for 45 minutes at room temperature. The sections were then probed with or without E-cadherin Monoclonal Antibody (NCH-38) (Product # MA5-12547) at 1:500 dilution in 0.1% normal goat serum overnight at 4 degree Celsius in a humidified chamber. Detection was performed using Alexa Fluor™ 488 Tyramide SuperBoost™ Kit, goat anti-mouse IgG (Product # B40912). Nuclei were stained with DAPI (Product # D1306) and the sections were mounted using ProLong™ Glass Antifade Mountant (Product # P36984). The images were captured on EVOS™ M7000 Imaging System (Product # AMF7000) at 20X magnification and externally deconvoluted.



E-cadherin Antibody (MA5-12547) in IHC (P)

Immunohistochemical analysis of E-cadherin was performed using formalin-fixed paraffin-embedded human alveolar ridge mucosa (squamous cell carcinoma) tissue sections. To expose the target protein, heat-induced epitope retrieval was performed on de-paraffinized sections using eBioscience™ IHC Antigen Retrieval Solution - High pH (10X) (Product # 00-4956-58) diluted to 1X solution in water in a decloaking chamber at 110 degree Celsius for 15 minutes. Following antigen retrieval, the sections were blocked with 3% H2O2 for 1 h at room temperature followed by 2% normal goat serum in 1X PBS for 45 minutes at room temperature. The sections were then probed with or without E-cadherin Monoclonal Antibody (NCH-38) (Product # MA5-12547) at 1:500 dilution in 0.1% normal goat serum overnight at 4 degree Celsius in a humidified chamber. Detection was performed using Alexa Fluor™ 488 Tyramide SuperBoost™ Kit, goat anti-mouse IgG (Product # B40912). Nuclei were stained with DAPI (Product # D1306) and the sections were mounted using ProLong™ Glass Antifade Mountant (Product # P36984). The images were captured on EVOS™ M7000 Imaging System (Product # AMF7000) at 20X magnification and externally deconvoluted.

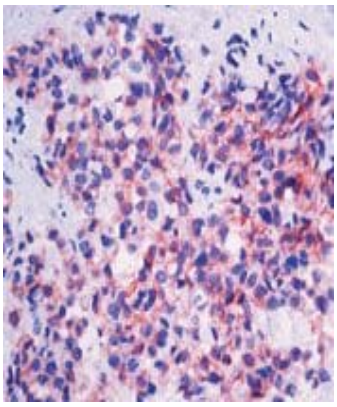


E-cadherin Antibody (MA5-12547) in IHC (P)

Immunohistochemistry analysis of E-cadherin/CDH1 (NCH-38) showing staining in the membrane and weak cytoplasm of paraffin-embedded human breast carcinoma (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with a E-cadherin/CDH1 Antibody (NCH-38) Mouse Monoclonal Antibody (Product # MA5-12547) diluted in 3% BSA-PBS at a dilution of 1:20 for 1 hour at 37°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA

thermofisher.com/contactus



E-cadherin Antibody (MA5-12547) in IHC (P)

Formalin-fixed, paraffin-embedded human breast carcinoma stained with E-Cadherin antibody using peroxidase-conjugate and AEC chromogen. Note membrane staining of tumor cells.

Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA

thermofisher.com/contactus

PubMed References For E-cadherin Monoclonal Antibody (NCH-38)

7 Immunohistochemistry References

Species / Dilution	Summary
Rat / Not Cited	MA5-12547 was used in immunohistochemistry to study the effects of a Nogo-A neutralizing peptide on cadherin expression in a rat model of mild cerebral contusion Turkish neurosurgery (2008; 18: 356) **"Nogo-A inhibitory peptide (NEP1-40) increases pan-cadherin expression following mild cortical contusion injury in rats."** Author(s):Atalay B,Bavbek M,Ozen O,Nacar A,Gülen S,Yiitkanli K,Caner H,Altinörs N PubMed Article URL:http://www.ncbi.nlm.nih.gov/pubmed/19107681
Human / 1:10	MA5-12547 was used in immunohistochemistry to report on two cases of malignant transformation of adenomyoepithelioma of the breast by a monophasic population APMIS : acta pathologica, microbiologica, et immunologica Scandinavica (2013; 121: 272) **"Malignant transformation of adenomyoepithelioma of the breast by a monophasic population: a report of two cases and review of literature."** Author(s):Marian C,Boila A,Soanca D,Malau M,Podeanu DM,Resetkova E,Stolnicu S PubMed Article URL:http://dx.doi.org/10.1111/j.1600-0463.2012.02982.x
Human / 1:25	MA5-12547 was used in immunohistochemistry to establish and characterize five new pancreatic adenocarcinoma cell lines The Journal of surgical research (2012; 172: 29) **"Five primary human pancreatic adenocarcinoma cell lines established by the outgrowth method."** Author(s):Rückert F,Aust D,Böhme I,Werner K,Brandt A,Diamandis EP,Krautz C,Hering S,Saeger HD,Grützmann R, Pilarsky C PubMed Article URL:http://dx.doi.org/10.1016/j.jss.2011.04.021
Human / Not Cited	MA5-12547 was used in immunohistochemistry to investigate the expression of cytokeratin 5/6 in a subset of invasive lobular carcinoma of the breast and its prognostic significance Human pathology (2008; 39: 331) **"The expression of cytokeratin 5/6 in invasive lobular carcinoma of the breast: evidence of a basal-like subset?"** Author(s):Fadare O,Wang SA,Hileeto D PubMed Article URL:http://dx.doi.org/10.1016/j.humpath.2007.07.014
Human / Not Cited	MA5-12547 was used in immunohistochemistry to investigate the expression of mammalian actin regulatory protein Ena in colorectal lesions Romanian journal of morphology and embryology = Revue roumaine de morphologie et embryologie (2008; 49: 345) **"The expression of cytoskeleton regulatory protein Mena in colorectal lesions."** Author(s):Gurzu S,Jung I,Prantner I,Ember I,Pávai Z,Mezei T PubMed Article URL:http://www.ncbi.nlm.nih.gov/pubmed/18758639
Human / 1:500	MA5-12547 was used in immunohistochemistry to report the clinical cases of cystic hypersecretory carcinoma Histopathology (2005; 46: 43) **"Cystic hypersecretory carcinoma: rare and poorly recognized variant of intraductal carcinoma of the breast. Report of five cases."** Author(s):Skalova A,Ryska A,Kajo K,Di Palma S,Kinkor Z,Michal M PubMed Article URL:http://dx.doi.org/10.1111/j.1365-2559.2005.02055.x
Mouse / Not Cited	MA5-12547 was used in Immunohistochemistry-immunofluorescence to study the function of scaffolding protein ankyrin-G (AnkG) in lens development of mice. Developmental biology (2019; 446: 119) **"Ankyrin-G regulated epithelial phenotype is required for mouse lens morphogenesis and growth."** Author(s):Rasiah PK,Maddala R,Bennett V,Rao PV PubMed Article URL:http://dx.doi.org/10.1016/j.ydbio.2018.12.016

2 Immunocytochemistry References

Species / Dilution	Summary
Human / Not Cited	MA5-12547 was used in Western Blotting to examine the biological role of cortactin in the progression of pancreatic ductal adenocarcinoma. Cancer cell international (2023; 19:) **"Overexpression and Tyr421-phosphorylation of cortactin is induced by three-dimensional spheroid culturing and contributes to migration and invasion of pancreatic ductal adenocarcinoma (PDAC) cells."** Author(s):Stock K,Borrink R,Mikesch JH,Hansmeier A,Rehkämper J,Trautmann M,Wardelmann E,Hartmann W, Sperveslage J,Steinestel K PubMed Article URL:http://dx.doi.org/10.1186/s12935-019-0798-x

Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA

thermofisher.com/contactus

	MA5-12547 was used in immunocytochemistry to develop an imortalized human ovarian surface epithelial cell line that maintains functional pRb and p53 expression
Human / Not Cited	Cell proliferation (2007; 40: 780) **"Human ovarian surface epithelial cells immortalized with hTERT maintain functional pRb and p53 expression."** Author(s):Li NF,Broad S,Lu YJ,Yang JS,Watson R,Hagemann T,Wilbanks G,Jacobs I,Balkwill F,Dafou D,Gayther SA PubMed Article URL:http://dx.doi.org/10.1111/j.1365-2184.2007.00462.x

Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA