abcam

Product datasheet

Anti-EpCAM antibody ab71916

20 Abreviews 87 References 6 Images

Overview

Product name	Anti-EpCAM antibody
Description	Rabbit polyclonal to EpCAM
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, IHC-P, WB
Species reactivity	**Reacts with:** Mouse, Rat, Human **Predicted to work with:** Cow, Dog, Pig, Rhesus monkey
Immunogen	Synthetic peptide within Human EpCAM aa 250 to the C-terminus (internal sequence) conjugated to keyhole limpet haemocyanin. The exact sequence is proprietary. (Peptide available as ab71915)
Positive control	This antibody gave a positive signal in the following human lysates: HCT 116 Whole Cell, HepG2 Whole Cell, SW480 Whole Cell and Human Ovary Tissue. IHC-P: FFPE human breast adenocarcinoma tissue sections.
General notes	Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough. Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility. We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee. In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for. We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee. Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee. Please check that this product meets your needs before purchasing. 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, as well as customer reviews and Q&As.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab71916** 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
ICC/IF	★★★★☆	Use a concentration of 1 - 5 µg/ml.
IHC-P	★★★★★	1/40 - 1/160.
WB	★★★★★	Use a concentration of 1 µg/ml. Detects a band of approximately 35 kDa (predicted molecular weight: 35 kDa).

Target

Function	May act as a physical homophilic interaction molecule between intestinal epithelial cells (IECs) and intraepithelial lymphocytes (IELs) at the mucosal epithelium for providing immunological barrier as a first line of defense against mucosal infection. Plays a role in embryonic stem cells proliferation and differentiation. Up-regulates the expression of FABP5, MYC and cyclins A and E.
Tissue specificity	Highly and selectively expressed by undifferentiated rather than differentiated embryonic stem cells (ESC). Levels rapidly diminish as soon as ESC's differentiate (at protein levels). Expressed in almost all epithelial cell membranes but not on mesodermal or neural cell membranes. Found on the surface of adenocarcinoma.
Involvement in disease	Defects in EPCAM are the cause of diarrhea type 5 (DIAR5) [MIM:613217]. It is an intractable diarrhea of infancy characterized by villous atrophy and absence of inflammation, with intestinal epithelial cell dysplasia manifesting as focal epithelial tufts in the duodenum and jejunum. Defects in EPCAM are a cause of hereditary non-polyposis colorectal cancer type 8 (HNPCC8) [MIM:613244]. HNPCC is a disease associated with marked increase in cancer susceptibility. It is characterized by a familial predisposition to early-onset colorectal carcinoma (CRC) and extra-colonic tumors of the gastrointestinal, urological and female reproductive tracts. HNPCC is

reported to be the most common form of inherited colorectal cancer in the Western world. Clinically, HNPCC is often divided into two subgroups. Type I is characterized by hereditary predisposition to colorectal cancer, a young age of onset, and carcinoma observed in the proximal colon. Type II is characterized by increased risk for cancers in certain tissues such as the uterus, ovary, breast, stomach, small intestine, skin, and larynx in addition to the colon. Diagnosis of classical HNPCC is based on the Amsterdam criteria: 3 or more relatives affected by colorectal cancer, one a first degree relative of the other two; 2 or more generation affected; 1 or more colorectal cancers presenting before 50 years of age; exclusion of hereditary polyposis syndromes. The term 'suspected HNPCC' or 'incomplete HNPCC' can be used to describe families who do not or only partially fulfill the Amsterdam criteria, but in whom a genetic basis for colon cancer is strongly suspected. Note=HNPCC8 results from heterozygous deletion of 3-prime exons of EPCAM and intergenic regions directly upstream of MSH2, resulting in transcriptional read-through and epigenetic silencing of MSH2 in tissues expressing EPCAM.

Sequence similarities

Belongs to the EPCAM family.
Contains 1 thyroglobulin type-1 domain.

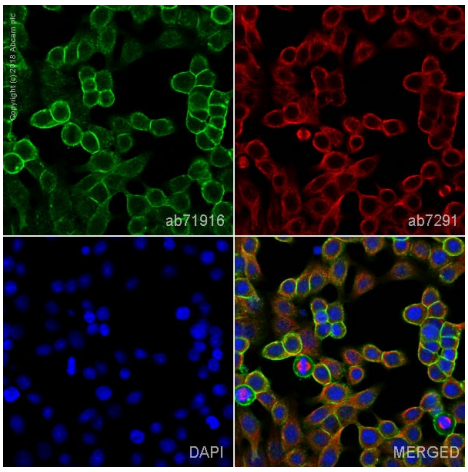
Post-translational modifications

Hyperglycosylated in carcinoma tissue as compared with autologous normal epithelia. Glycosylation at Asn-198 is crucial for protein stability.

Cellular localization

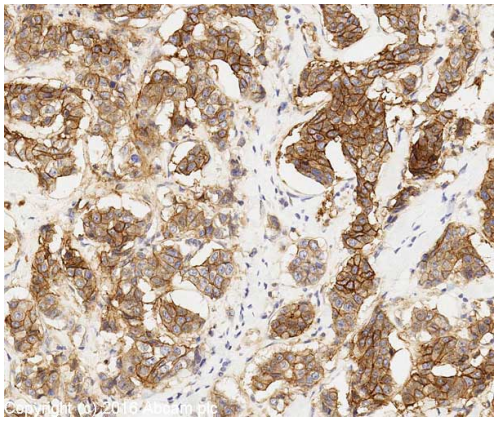
Lateral cell membrane. Cell junction > tight junction. Co-localizes with CLDN7 at the lateral cell membrane and tight junction.

Images



Immunocytochemistry/ Immunofluorescence - Anti-EpCAM antibody (ab71916)

ab71916 staining EpCam in HT29 cells. The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab71916 at 1µg/ml and ab7291, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control, at 1/1000 dilution. Cells were then incubated with ab150120, Goat polyclonal Secondary Antibody to Mouse at 1/1000 dilution (shown in pseudocolour red) and ab150081, Goat polyclonal Secondary Antibody to Rabbit IgG at 1/1000 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).

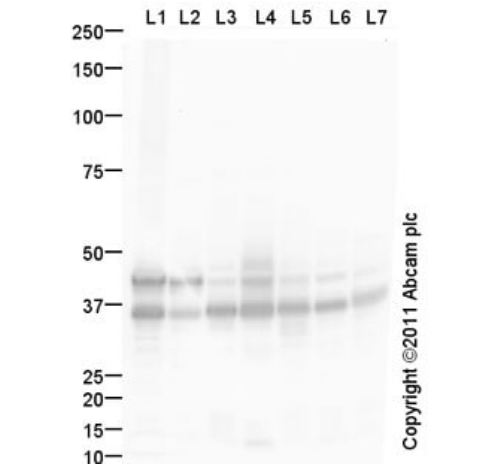


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EpCAM antibody (ab71916)

IHC image of EpCAM staining in human breast adenocarcinoma formalin fixed paraffin embedded tissue section*, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab75962, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

**Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre*



Western blot - Anti-EpCAM antibody (ab71916)

All lanes : Anti-EpCAM antibody (ab71916) at 1 µg/ml

Lane 1 : Colon (Mouse) Tissue Lysate
Lane 2 : Colon (Rat) Tissue Lysate
Lane 3 : HCT 116 (Human Colorectal Carcinoma) Whole Cell Lysate
Lane 4 : SW480 (Human colon adenocarcinoma cell line) Whole Cell Lysate
Lane 5 : Caco 2 (Human colonic carcinoma cell line) Whole Cell Lysate
Lane 6 : HuES7 (Human embryonic stem cell line) Whole Cell Lysate
Lane 7 : HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Secondary

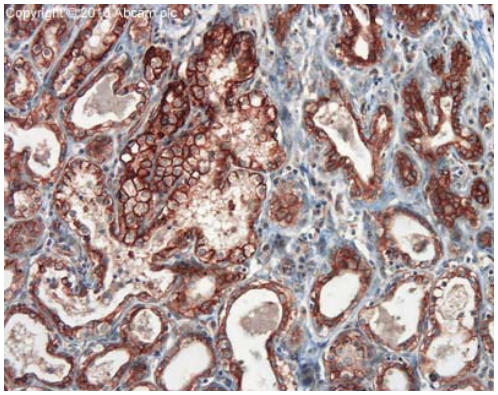
All lanes : Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 35 kDa
Observed band size: 35 kDa
Additional bands at: 40 kDa. We are unsure as to the identity of these extra bands.

Secondary antibody - goat anti-rabbit HRP (H&L preadsorbed; ab97080)

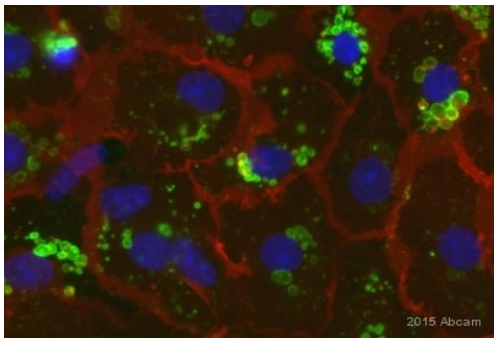


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EpCAM antibody (ab71916)

ab71916 (1:160) staining EpCAM in paraffin-embedded human breast tissue, using an automated system (Ventana Discovery). Using this protocol there is strong membrane staining of the basolateral membranes of normal breast epithelial cells of breast ducts and lobular acini. There is associated weak to moderate staining of the cytoplasm of these cells.

Sections were rehydrated and antigen retrieved in CC1 Cell Conditioning Buffer using Ventana Standard Retrieval programme. Slides were blocked in 3% H_2O_2 / 4 min / 37°C and incubated with ab71916 (1:160 dilution / 2 hours / 37°C). Sections then blocked (4mins / 37°C) and incubated with Dako swine anti-rabbit antibody (1:50, 28 min / 37°C). Staining was amplified and detected by incubation with Ventana Streptavidin ABC system (16 min / 37°C) and Ventana DAB map reagent (8 min / 37°C). Slides were counterstained with Haematoxylin and coverslipped in DPX.

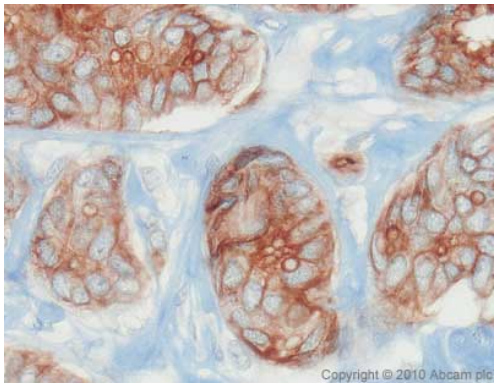
For manua



Immunocytochemistry/ Immunofluorescence - Anti-EpCAM antibody (ab71916)

Image is courtesy of an anonymous AbReview.

Immunocytochemical immunofluorescence analysis of methanol-fixed rat primary alveolar type II cells, labelling EpCAM with ab71916 at at a dilution of 1/100 incubated for 1 hour at 25°C. Permeabilization was with Triton X. Blocking was with 5% BSA incubated for 30 minutes at 25°C. Secondary was a donkey anti-rabbit Alexa Fluor® 568 conjugate at 1/400.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EpCAM antibody (ab71916)

ab71916 (1:40) staining EpCAM in paraffin-embedded human breast carcinoma (Grade 2 Invasive Ductal Carcinoma) using an automated system (Ventana Discovery).
Using this protocol there is moderate to strong membrane staining in carcinoma cells which may be apical or complete instead of basolateral. There is associated moderate to strong staining of the cytoplasm of these cells.

Sections were rehydrated and antigen retrieved in CC1 Cell Conditioning Buffer using Ventana Standard Retrieval programme. Slides were blocked in 3% H_2O_2 / 4 min / 37°C and incubated with ab71916 (1:40 dilution / 1 hour / 37°C). Sections then blocked (4mins / 37°C) and incubated with Dako swine anti-rabbit antibody (1:50, 28 min / 37°C). Staining was amplified and detected by incubation with Ventana Streptavidin ABC system (16 min / 37°C) and Ventana DAB map reagent (8 min / 37°C). Slides were counterstained with Haematoxylin and coverslipped in D

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