

Product datasheet

Anti-EpCAM antibody [EPR20533-266] **ab213501**

Recombinant **RabMAb**

8 Images

Overview

Product name	Anti-EpCAM antibody [EPR20533-266]
Description	Rabbit monoclonal [EPR20533-266] to EpCAM
Host species	Rabbit
Tested applications	Suitable for: WB, ICC/IF, IP, IHC-P
Species reactivity	Reacts with: Mouse, Rat
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Mouse small intestine, pancreas, colon and kidney lysates; Rat colon and kidney lysates; 4T1 whole cell lysate. IHC-P: Mouse colon and lung tissues; Rat colon tissue. ICC/IF: 4T1 cells. IP: 4T1 whole cell lysate.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

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 long term. Avoid freeze / thaw cycle.
Storage buffer	<p>pH: 7.2</p> <p>Preservative: 0.01% Sodium azide</p> <p>Constituents: PBS, 0.05% BSA, 40% Glycerol (glycerin, glycerine)</p>
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR20533-266

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab213501 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
WB		1/1000. Detects a band of approximately 39 kDa (predicted molecular weight: 35 kDa).
ICC/IF		1/100.
IP		1/40.
IHC-P		1/2000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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.

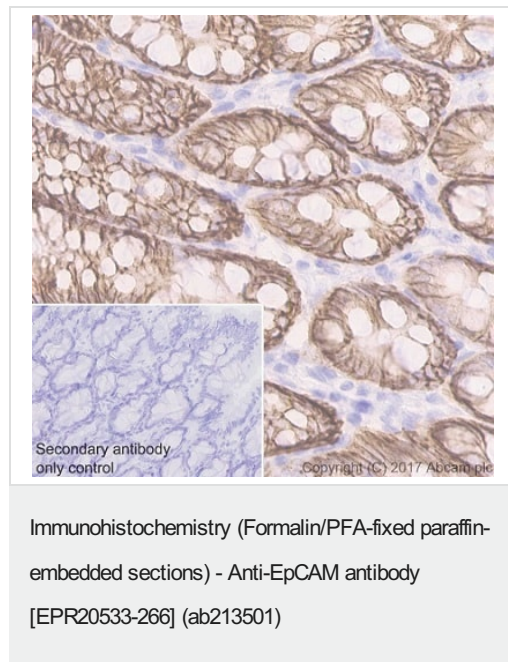
Post-translational modifications

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.

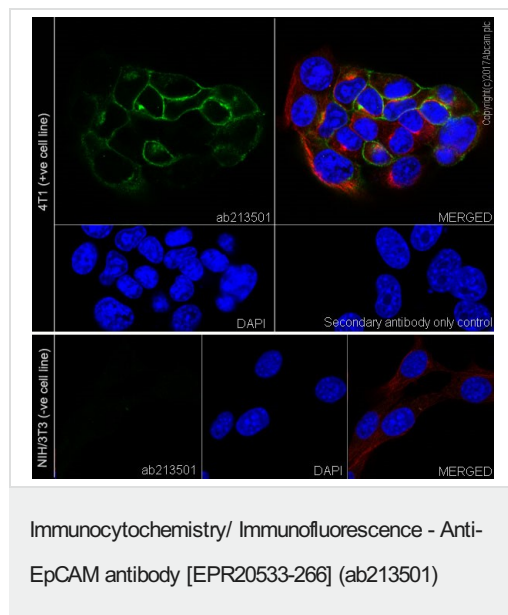
Images



Immunohistochemical analysis of paraffin-embedded rat colon tissue labeling EpCAM with ab213501 at 1/2000 dilution, followed by Goat anti-Rabbit IgG H&L (HRP) Ready to use. Membranous staining on rat colon is observed (PMID: 15637741). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

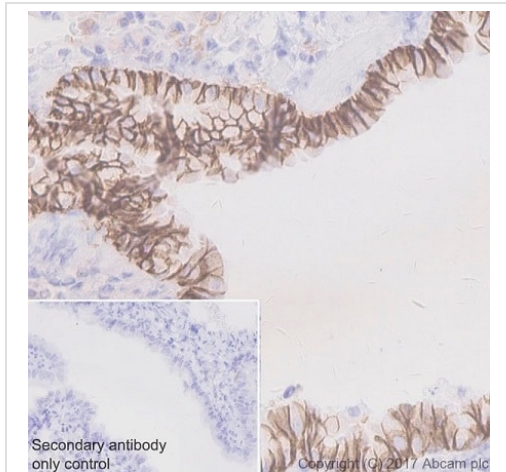


Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized 4T1 (mouse mammary gland carcinoma cell line) and NIH/3T3 (mouse embryo fibroblast cell line) cells labeling EpCAM with ab213501 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) ([ab150077](#)) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous staining on 4T1 cells.

Negative control: NIH/3T3 (PMID:23264216).

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) ([ab195889](#)) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) ([ab150077](#)) secondary antibody at 1/1000 dilution.

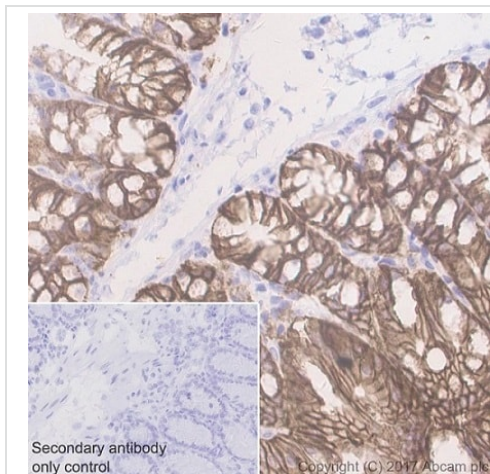


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EpCAM antibody [EPR20533-266] (ab213501)

Immunohistochemical analysis of paraffin-embedded mouse lung tissue labeling EpCAM with ab213501 at 1/2000 dilution, followed by Goat anti-Rabbit IgG H&L (HRP) Ready to use. Membranous staining on mouse lung is observed (PMID: 15637741). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

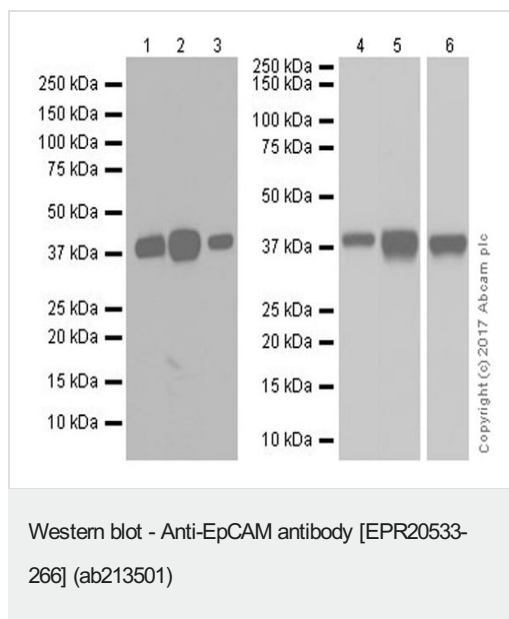


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EpCAM antibody [EPR20533-266] (ab213501)

Immunohistochemical analysis of paraffin-embedded mouse colon tissue labeling EpCAM with ab213501 at 1/2000 dilution, followed by Goat anti-Rabbit IgG H&L (HRP) Ready to use. Membranous staining on mouse colon is observed (PMID: 15637741). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Lanes 1-3 : Anti-EpCAM antibody [EPR20533-266] (ab213501) at 1/1000 dilution

Lanes 4-6 : Anti-EpCAM antibody [EPR20533-266] (ab213501) at 1/5000 dilution

Lane 1 : Mouse small intestine lysate

Lane 2 : Mouse pancreas lysate

Lane 3 : Rat colon lysate

Lane 4 : Mouse colon lysate

Lane 5 : Mouse kidney lysate

Lane 6 : Rat kidney lysate

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/100000 dilution

Developed using the ECL technique.

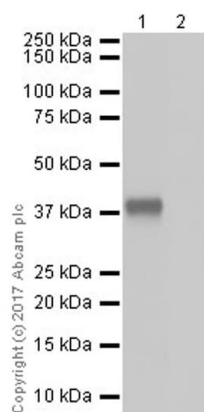
Predicted band size: 35 kDa

Observed band size: 39 kDa

Blocking/Dilution buffer: 5% NFDm/TBST.

Exposure time: Lane 1-3: 3 minutes; Lane 4/5: 5 seconds; Lane 6: 30 seconds.

The MW observed is consistent with the literature (PMID 23409978; PMID 23618806).



Western blot - Anti-EpCAM antibody [EPR20533-266] (ab213501)

All lanes : Anti-EpCAM antibody [EPR20533-266] (ab213501) at 1/5000 dilution

Lane 1 : 4T1 (mouse mammary gland carcinoma cell line) whole cell lysate

Lane 2 : NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

Developed using the ECL technique.

Predicted band size: 35 kDa

Observed band size: 39 kDa

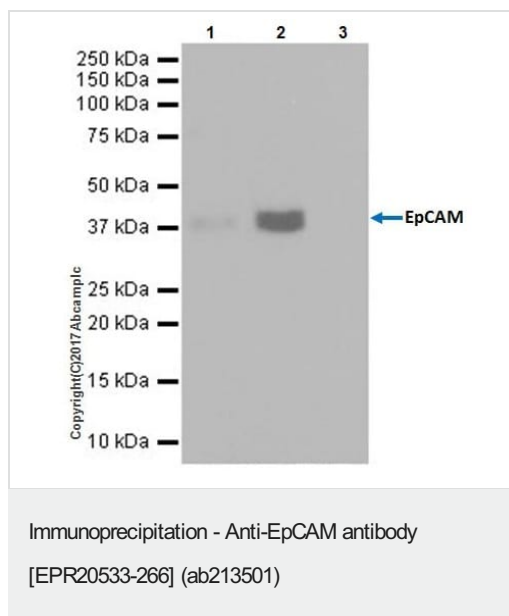
Exposure time: 5 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.

The MW observed is consistent with the literature (PMID 23409978; PMID 23618806).

Negative control:

NIH/3T3 (PMID:23264216).



EpCAM was immunoprecipitated from 0.35 mg of 4T1 (mouse mammary gland carcinoma cell line) whole cell lysate with ab213501 at 1/40 dilution. Western blot was performed from the immunoprecipitate using ab213501 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (**ab13136**), was used as secondary antibody at 1/10000 dilution.

Lane 1: 4T1 whole cell lysate 10 µg (Input).

Lane 2: ab213501 IP in 4T1 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab213501 in 4T1 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 minutes.

Why choose a recombinant antibody?

<p>Research with confidence Consistent and reproducible results</p>	<p>Long-term and scalable supply Recombinant technology</p>
<p>Success from the first experiment Confirmed specificity</p>	<p>Ethical standards compliant Animal-free production</p>

Anti-EpCAM antibody [EPR20533-266] (ab213501)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors