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Product datasheet

FITC Anti-EpCAM antibody [B29.1 (VU-1D9)] ab8666

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Overview

Product name	FITC Anti-EpCAM antibody [B29.1 (VU-1D9)]
Description	FITC Mouse monoclonal [B29.1 (VU-1D9)] to EpCAM
Host species	Mouse
Conjugation	FITC. Ex: 493nm, Em: 528nm
Specificity	This antibody reacts with a 40 kD cell surface glycoprotein called ESA.
Tested applications	**Suitable for:** ICC, IHC-P, WB, IP, ICC/IF
Species reactivity	**Reacts with:** Human
Immunogen	Tissue, cells or virus corresponding to Human EpCAM. Raised against carcinoma cell line of human origin. Database link: **P16422**
Positive control	Breast, colon carcinoma and tonsil
General notes	Dilute according to the particular application being used. In general, 0.05M borate pH 8.0 containing 0.15M sodium chloride, 0.02% sodium azide, is a good dilutent to use with most antibodies. Avoid diluting the entire contents of the vial at once since the diluted solution may have reduced stability. Fluorescein (FITC) conjugated at a ratio of 6 moles of Fluorescein to 1 mole of antibody. Maximum excitation of FITC occurs at wavelength 492 nm and maximum emission occurs at wavelength 520 nm. 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. 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

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Please see notes section.
Storage buffer	pH: 7.40

	Preservative: 0.1% Sodium azide Constituent: 0.01% PBS
Purity	Protein G purified
Clonality	Monoclonal
Clone number	B29.1 (VU-1D9)
Isotype	IgG1
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab8666 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		Use at an assay dependent concentration. PubMed: 17417652
IHC-P		Use at an assay dependent concentration. PubMed: 20421921
WB		Use at an assay dependent concentration. Predicted molecular weight: 35 kDa. This product was not quality controlled in Flow Cytometry applications. However, it may be applicable for Flow Cytometry at a concentration of 1-2 Âµg in 0.1 ml containing 10^6 cells.
IP		Use at an assay dependent concentration.
ICC/IF	★★★★☆ (1)	Use a concentration of 5 - 10 µg/ml. See Abreview.

Target

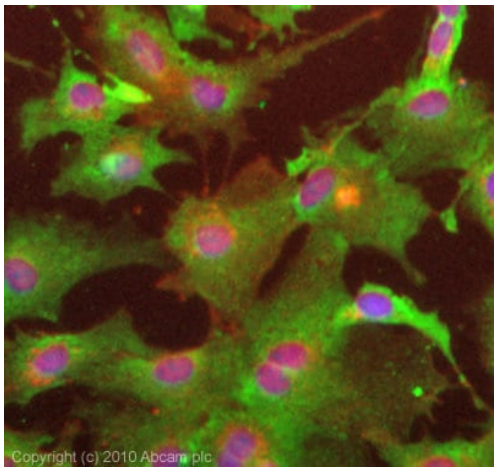
Function May act as a physical homophilic interaction molecule between intestinal epithelial cells (IECs) and intraepithelial lymphocytes (IELs) at the mucosal epithelium for providing immunological barrier as a first line of defense against mucosal infection. Plays a role in embryonic stem cells proliferation 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 - FITC Anti-EpCAM antibody [B29.1 (VU-1D9)] (ab8666)

ICC/IF image of ab8666 stained HepG2 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab8666, 5µg/ml) overnight at +4°C. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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