

## Product datasheet

# Anti-Mucin 5AC antibody [45M1] ab3649

Recombinant

★★★★★ [7 Abreviews](#) [113 References](#) [10 Images](#)

### Overview

<b>Product name</b>	Anti-Mucin 5AC antibody [45M1]
<b>Description</b>	Mouse monoclonal [45M1] to Mucin 5AC
<b>Host species</b>	Mouse
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, IHC-Fr, mIHC, IHC-P
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Full length protein. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	IHC-P: Human, mouse, and rat stomach tissues; IHC-Fr: Mouse and rat stomach tissues; ICC/IF: A549 cells. mIHC: Human stomach tissue.
<b>General notes</b>	<p>This product has switched from a hybridoma to recombinant production method on 8<sup>th</sup> March 2021.</p> <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"><li>- High batch-to-batch consistency and reproducibility</li><li>- Improved sensitivity and specificity</li><li>- Long-term security of supply</li><li>- Animal-free production</li></ul> <p>For more information <a href="#">see here</a>.</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	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.
<b>Storage buffer</b>	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 0.05% BSA, 40% Glycerol (glycerin, glycerine)
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	45M1
<b>Myeloma</b>	unknown

<b>Isotype</b>	IgG1
<b>Light chain type</b>	kappa

## Applications

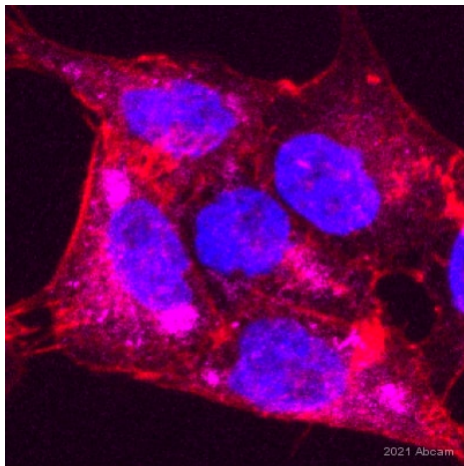
**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab3649 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★☆ (2)	1/100.
IHC-Fr	★★★★★ (2)	1/100.
mIHC		Use at an assay dependent concentration.
IHC-P	★★★★★ (3)	1/100 - 1/5000.

## Target

<b>Function</b>	Gel-forming glycoprotein of gastric and respiratory tract epithelia that protects the mucosa from infection and chemical damage by binding to inhaled microorganisms and particles that are subsequently removed by the mucociliary system.
<b>Tissue specificity</b>	Highly expressed in surface mucosal cells of respiratory tract and stomach epithelia. Overexpressed in a number of carcinomas. Also expressed in Barrett's esophagus epithelium and in the proximal duodenum.
<b>Sequence similarities</b>	Contains 1 CTCK (C-terminal cystine knot-like) domain. Contains 3 TIL (trypsin inhibitory-like) domains. Contains 4 VWFC domains. Contains 4 VWFD domains.
<b>Domain</b>	The cysteine residues in the Cys-rich subdomain repeats are not involved in disulfide bonding.
<b>Post-translational modifications</b>	C-, O- and N-glycosylated. O-glycosylated on the Thr-/Ser-rich tandem repeats. C-mannosylation in the Cys-rich subdomains may be required for proper folding of these regions and for export from the endoplasmic reticulum during biosynthesis. Proteolytic cleavage in the C-terminal is initiated early in the secretory pathway and does not involve a serine protease. The extent of cleavage is increased in the acidic parts of the secretory pathway. Cleavage generates a reactive group which could link the protein to a primary amide.
<b>Cellular localization</b>	Secreted.

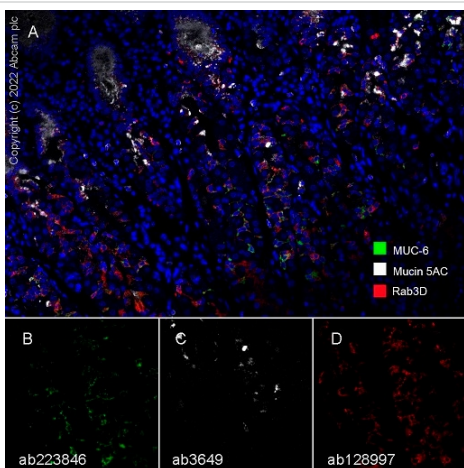
## Images



Immunocytochemistry - Anti-Mucin 5AC antibody [45M1] (ab3649)

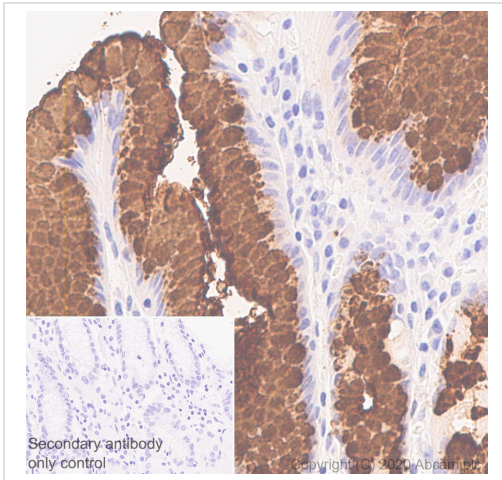
This image is courtesy of an anonymous Abreview

Immunocytochemistry analysis of paraformaldehyde-fixed 0.5% Triton in PBS-permeabilized human HBE cells staining with ab3649 at 1/300 dilution. Secondary antibody was Alexa Fluor® 594 Goat Thermo A-11005 at 1/250 dilution. Red: Actin Magenta: MUC5AC Blue: DNA. Samples were incubated with the primary antibody with 1% BSA in PBS for 16 hours at 4°C.



Multiplex immunohistochemistry - Anti-Mucin 5AC antibody [45M1] (ab3649)

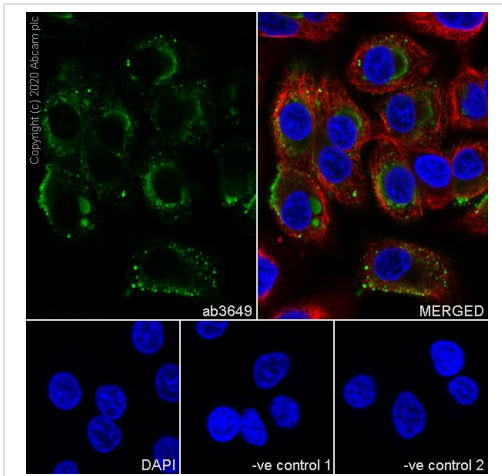
Fluorescence multiplex immunohistochemical analysis of the human stomach (Formalin/PFA-fixed paraffin-embedded sections). Panel A: merged staining of anti-Mucin 5AC (ab3649, gray; Opal™690), anti-MUC-6 (**ab223846**, green; Opal™520) and anti-Rab3D (**ab128997**, red; Opal™570) on human stomach. Panel B: anti-MUC-6 stained on mucous neck cells. Panel C: anti-Mucin 5AC stained on surface mucous cells. Panel D: anti-Rab3D stained on Chief cells. Opal Polymer HRP Ms + Rb was used as a secondary antibody. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. The section was incubated in three rounds of staining: in the order of ab3649 (1/5000 dilution), **ab223846** (1/1000 dilution), and **ab128997** (1/10000 dilution) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) was used for 20 mins. DAPI (blue) was used as a nuclear counter stain. Image acquisition was performed with Leica SP8 confocal microscope.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Mucin 5AC antibody [45M1] (ab3649)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human stomach tissue labeling Mucin 5AC with ab3649 at 1/5000 dilution. Heat mediated antigen retrieval was performed using Citrate buffer pH 6 (epitope retrieval solution 1) for 20 minutes. The section was incubated with ab3649 for 30 mins at room temperature. Goat Anti-Mouse IgG H&L (HRP polymer) (**ab214879**) was used as the secondary antibody. Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument

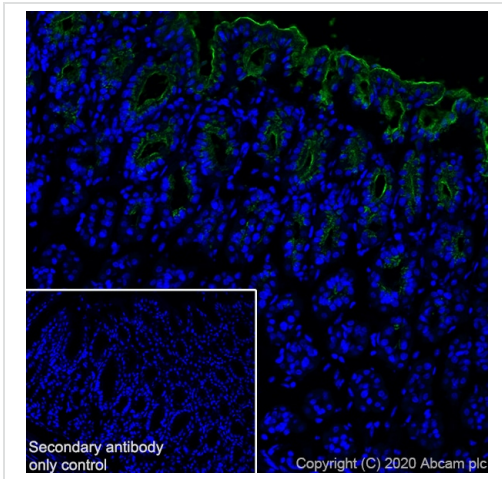


Immunocytochemistry/ Immunofluorescence - Anti-Mucin 5AC antibody [45M1] (ab3649)

Immunocytochemistry analysis of A549 (human lung carcinoma cell line) cells labeling Mucin 5AC with ab3649 at 1/100 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) (**ab150113**) at 1/1000 was used as the secondary antibody (green). Cells were counterstained with Anti-beta Tubulin rabbit monoclonal antibody (**ab179513**) at 1/200 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) (**ab150080**) at 1/1000 dilution (red). Nuclear DNA was labelled with DAPI (blue).

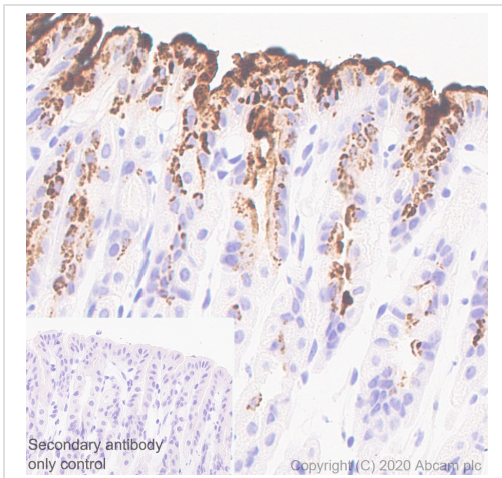
Negative control 1: ab3649 (Mouse monoclonal antibody to Mucin 5AC at 1/100 dilution) and **ab150080** (anti-Rabbit secondary Alexa Fluor® 594 at 1/1000 dilution)

Negative control 2: **ab179513** (Rabbit monoclonal antibody to beta Tubulin at 1/200 dilution) and **ab150113** (anti-Mouse secondary Alexa Fluor® 488 at 1/1000 dilution)



Immunohistochemistry (Frozen sections) - Anti-Mucin 5AC antibody [45M1] (ab3649)

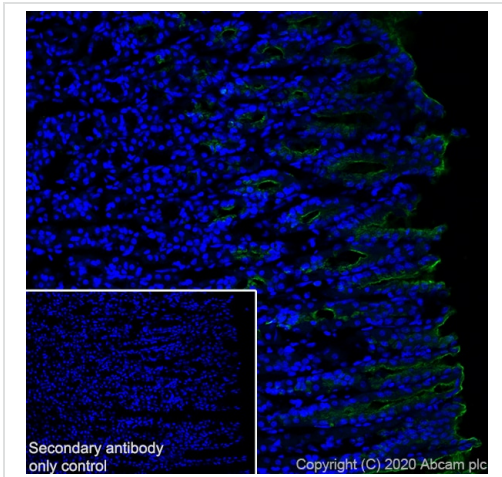
Immunohistochemistry (Frozen sections) analysis of mouse stomach tissue labeling Mucin 5AC with ab3649 at 1/100 dilution. Tissue was fixed with 4% paraformaldehyde and permeabilized with 0.2% Triton X-100. Heat mediated antigen retrieval was performed using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20). Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) (**ab150113**) was used as the secondary antibody at 1/1000 dilution (green). Nuclei counterstained with DAPI (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Mucin 5AC antibody [45M1] (ab3649)

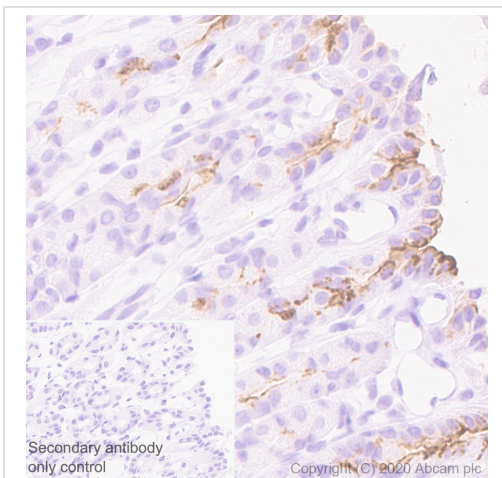
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse stomach tissue labeling Mucin 5AC with ab3649 at 1/5000 dilution. Heat mediated antigen retrieval was performed using Citrate buffer pH 6 (epitope retrieval solution 1) for 20 minutes. The section was incubated with ab3649 for 30 mins at room temperature. Goat Anti-Mouse IgG H&L (HRP polymer) (**ab214879**) was used as the secondary antibody. Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument



Immunohistochemistry (Frozen sections) - Anti-Mucin 5AC antibody [45M1] (ab3649)

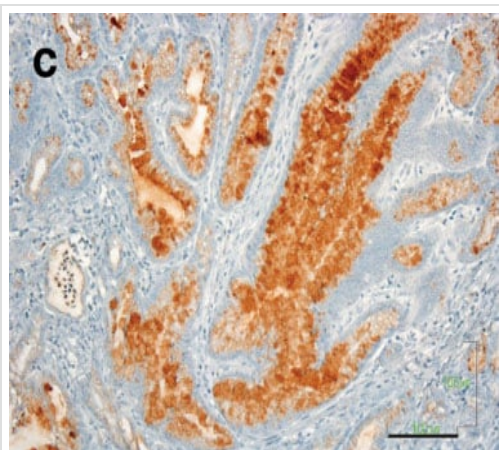
Immunohistochemistry (Frozen sections) analysis of rat stomach tissue labeling Mucin 5AC with ab3649 at 1/100 dilution. Tissue was fixed with 4% paraformaldehyde and permeabilized with 0.2% Triton X-100. Heat mediated antigen retrieval was performed using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20). Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) (**ab150113**) was used as the secondary antibody at 1/1000 dilution (green). Nuclei counterstained with DAPI (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Mucin 5AC antibody [45M1] (ab3649)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat stomach tissue labeling Mucin 5AC with ab3649 at 1/5000 dilution. Heat mediated antigen retrieval was performed using Citrate buffer pH 6 (epitope retrieval solution 1) for 20 minutes. The section was incubated with ab3649 for 30 mins at room temperature. Goat Anti-Mouse IgG H&L (HRP polymer) (**ab214879**) was used as the secondary antibody. Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument



This image was generated from the hybridoma version of the product.





Immunohistochemical analysis of rat stomach tissue, staining Mucin 5AC with ab3649.

Antigen retrieval was performed via heat mediation in a citrate buffer. Samples were blocked before incubating with primary antibody (1/100) for 1 hour at room temperature. An HRP-conjugated anti-mouse IgG was used as the secondary antibody and staining was detected using DAB.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Mucin 5AC antibody [45M1] (ab3649)

Image from Kikuchi Met al., BMC Gastroenterol. 2010 Jun 18;10:65. doi: 10.1186/1471-230X-10-65.; Fig 5.; 18 June 2010, BMC Gastroenterology 2010, 10:65

Why choose a recombinant antibody?

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

Anti-Mucin 5AC antibody [45M1] (ab3649)

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