abcam

Product datasheet

Anti-MUC2 antibody [EPR23479-47] ab272692

Recombinant RabMAb

★★★★★ 2 Abreviews 23 References 11 Images

Overview

Product name	Anti-MUC2 antibody [EPR23479-47]
Description	Rabbit monoclonal [EPR23479-47] to MUC2
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P, mIHC, WB, IHC-Fr **Unsuitable for:** Flow Cyt,ICC/IF or IP
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Human colon cancer tissue lysate. Mouse small intestine tissue lysate. Rat small intestine and colon tissue lysate. IHC-P: Human, mouse and rat colon tissue. Human bladder cancer tissue. IHC-Fr: Mouse and rat colon tissue. mIHC: Human colon and jejunum tissue.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

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	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR23479-47

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab272692 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
IHC-P	★★★★★ (1)	1/2000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
mIHC		1/2000 - 1/5000.
WB	★★★★★ (1)	1/1000. Predicted molecular weight: 540 kDa.
IHC-Fr		1/500. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Application notes Is unsuitable for Flow Cyt,ICC/IF or IP.

Target

Function Coats the epithelia of the intestines, airways, and other mucus membrane-containing organs. Thought to provide a protective, lubricating barrier against particles and infectious agents at mucosal surfaces. Major constituent of both the inner and outer mucus layers of the colon and may play a role in excluding bacteria from the inner mucus layer.

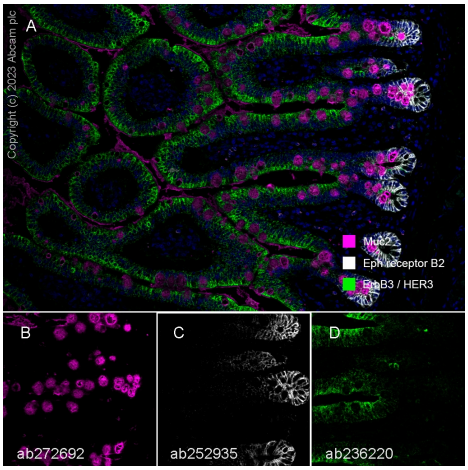
Tissue specificity Colon, small intestine, colonic tumors, bronchus, cervix and gall bladder.

Sequence similarities Contains 1 CTCK (C-terminal cystine knot-like) domain.
Contains 1 TIL (trypsin inhibitory-like) domain.
Contains 2 VWFC domains.
Contains 4 VWFD domains.

Post-translational modifications O-glycosylated.
May undergo proteolytic cleavage in the outer mucus layer of the colon, contributing to the expanded volume and loose nature of this layer which allows for bacterial colonization in contrast to the inner mucus layer which is dense and devoid of bacteria.
At low pH of 6 and under, undergoes autocatalytic cleavage in vitro in the N-terminal region of the fourth VWD domain. It is likely that this also occurs in vivo and is triggered by the low pH of the late secretory pathway.

Cellular localization Secreted. In the intestine, secreted into the inner and outer mucus layers.

Images



Multiplex immunohistochemistry - Anti-MUC2 antibody [EPR23479-47] (ab272692)

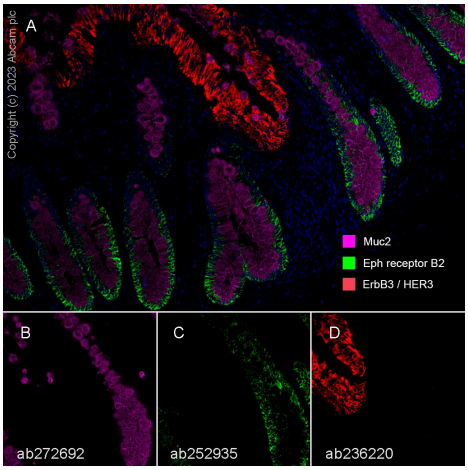
Fluorescence multiplex immunohistochemical analysis of the human jejunum (Formalin/PFA-fixed paraffin-embedded sections).

Panel A: merged staining of anti-Muc2 (ab272692, magenta; Opal™690), anti-Eph receptor B2 (**ab252935**, green; Opal™520) and anti-ErbB3 / HER3 (**ab236220**, red; Opal™570) on human jejunum. Panel B: anti-Muc2 stained on goblet cells. Panel C: anti-Eph receptor B2 stained on intestinal stem and progenitor cells. Panel D: anti-ErbB3 / HER3 stained on epithelial cells. Opal Polymer HRP Ms + Rb was used as a secondary antibody.

The section was incubated in three rounds of staining: in the order of ab272692 at 1/2000 dilution (0.252 µg/ml), **ab252935** at 1/1000 dilution (0.527 µg/ml), and **ab236220** at 1/3000 dilution (0.75 µg/ml) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins. DAPI (blue) was used as a nuclear counter stain.



Multiplex immunohistochemistry - Anti-MUC2 antibody [EPR23479-47] (ab272692)

Fluorescence multiplex immunohistochemical analysis of the human colon (Formalin/PFA-fixed paraffin-embedded sections).

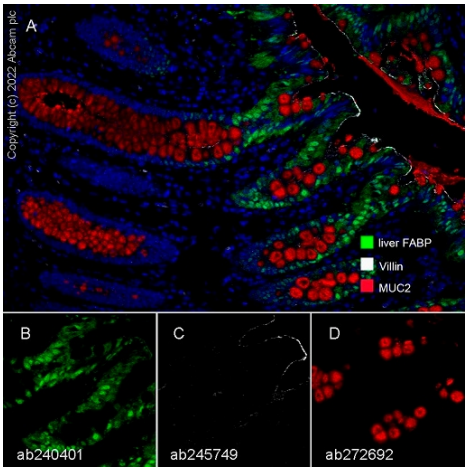
Panel A: merged staining of anti-Muc2 (ab272692, magenta; Opal™690), anti-Eph receptor B2 (**ab252935**, green; Opal™520) and anti-ErbB3 / HER3 (**ab236220**, red; Opal™570) on human colon. Panel B: anti-Muc2 stained on goblet cells. Panel C: anti-Eph receptor B2 stained on intestinal stem and progenitor cells. Panel D: anti-ErbB3 / HER3 stained on epithelial cells. Opal Polymer HRP Ms + Rb was used as a secondary antibody.

The section was incubated in three rounds of staining: in the order of ab272692 at 1/2000 dilution (0.252 µg/ml), **ab252935** at 1/1000 dilution (0.527 µg/ml), and **ab236220** at 1/3000 dilution (0.75 µg/ml) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

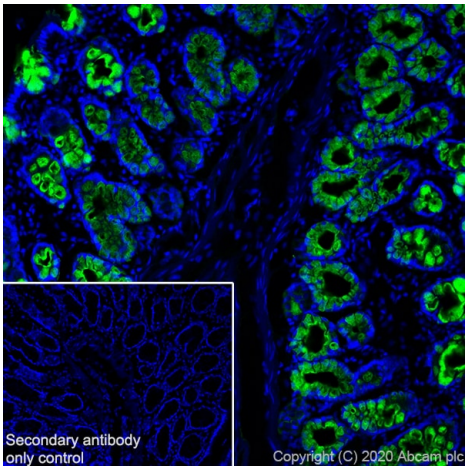
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0,

epitope retrieval solution2) for 20 mins. DAPI (blue) was used as a nuclear counter stain.



Multiplex immunohistochemistry - Anti-MUC2 antibody [EPR23479-47] (ab272692)

Fluorescence multiplex immunohistochemical analysis of the human colon (Formalin/PFA-fixed paraffin-embedded sections). Panel A: merged staining of anti-Villin (**ab245749**, gray; Opal™690), anti-liver FABP (**ab240401**, green; Opal™520) and anti-MUC2 (ab272692, red; Opal™570) on human colon. Panel B: anti-liver FABP stained on enterocytes. Panel C: anti-Villin stained on apical border. Panel D: anti-MUC2 stained on goblet 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 **ab245749** (1/1000 dilution), **ab240401** (1/8000 dilution), and ab272692 (1/5000 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) for 20 mins. DAPI (blue) was used as a nuclear counter stain. Image acquisition was performed with Leica SP8 confocal microscope.

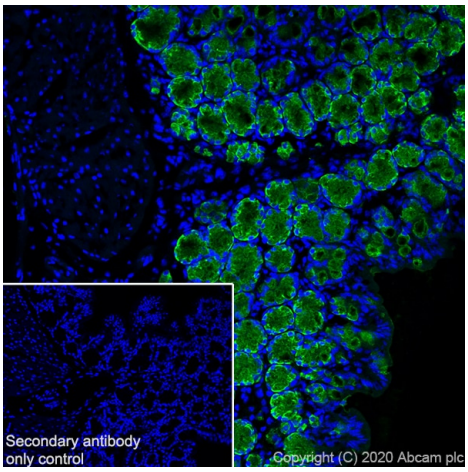


Immunohistochemistry (Frozen sections) - Anti-MUC2 antibody [EPR23479-47] (ab272692)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen rat colon tissue labeling MUC2 with ab272692 at 1/500 dilution followed by **ab150077** AlexaFluor® 488 Goat anti-Rabbit secondary at 1/1000 (2 µg/ml) dilution (Green). Positive staining on rat colon is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** AlexaFluor® 488 Goat anti-Rabbit secondary at 1/1000 (2 µg/ml) dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

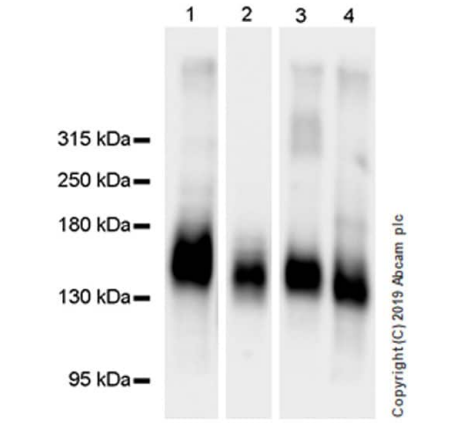


Immunohistochemistry (Frozen sections) - Anti-MUC2 antibody [EPR23479-47] (ab272692)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse colon tissue labeling MUC2 with ab272692 at 1/500 dilution followed by **ab150077** AlexaFluor® 488 Goat anti-Rabbit secondary at 1/1000 (2 µg/ml) dilution (Green). Positive staining on mouse colon is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** AlexaFluor® 488 Goat anti-Rabbit secondary at 1/1000 (2 µg/ml) dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Western blot - Anti-MUC2 antibody [EPR23479-47] (ab272692)

All lanes : Anti-MUC2 antibody [EPR23479-47] (ab272692) at 1/1000 dilution

Lane 1 : Human colon cancer tissue lysate
Lane 2 : Mouse small intestine tissue lysate
Lane 3 : Rat small intestine tissue lysate
Lane 4 : Rat colon tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/20000 dilution

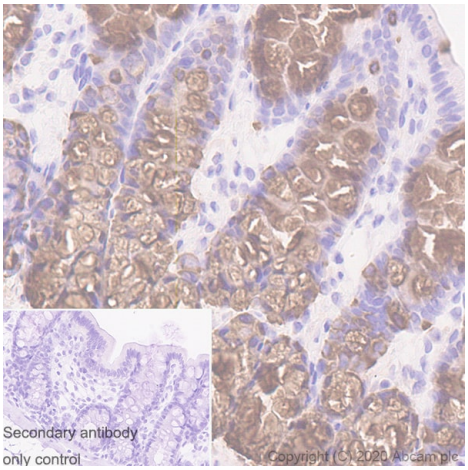
Predicted band size: 540 kDa
Observed band size: 140-170 kDa

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

MUC2 is highly glycosylated.

The C-terminal fragment alpha-MUC2C2 (140-170 kDa) is

observed. The molecular weight is consistent with what have been described in literature (PMID: 12582180; 16754877). Exposure time: 3 seconds.

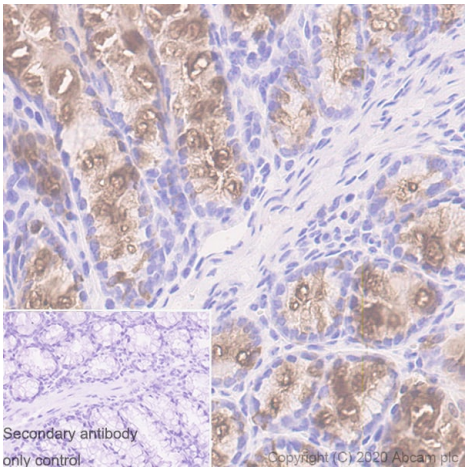


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MUC2 antibody [EPR23479-47] (ab272692)

Immunohistochemical analysis of paraffin-embedded rat colon tissue labeling MUC2 with ab272692 at 1/2000 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Postive staining on rat colon is observed. The section was incubated with ab272692 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.

Secondary antibody only control: Secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

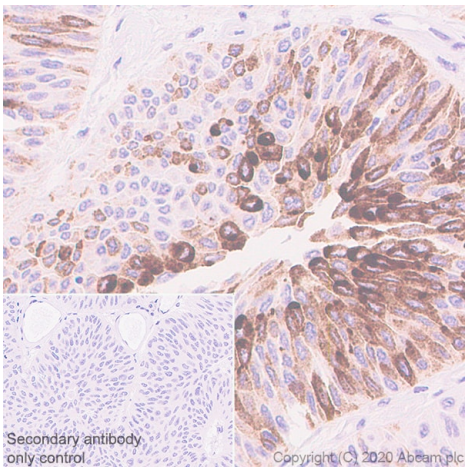


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MUC2 antibody [EPR23479-47] (ab272692)

Immunohistochemical analysis of paraffin-embedded mouse colon tissue labeling MUC2 with ab272692 at 1/2000 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Postive staining on mouse colon is observed. The section was incubated with ab272692 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

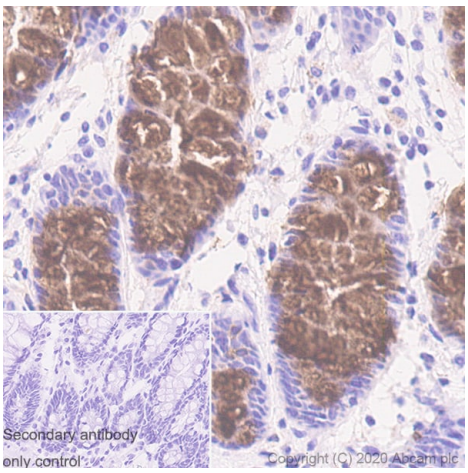


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MUC2 antibody [EPR23479-47] (ab272692)

Immunohistochemical analysis of paraffin-embedded human bladder cancer tissue labeling MUC2 with ab272692 at 1/2000 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Postive staining on human bladder cancer (PMID: 25197366). The section was incubated with ab272692 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.

Secondary antibody only control: Secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

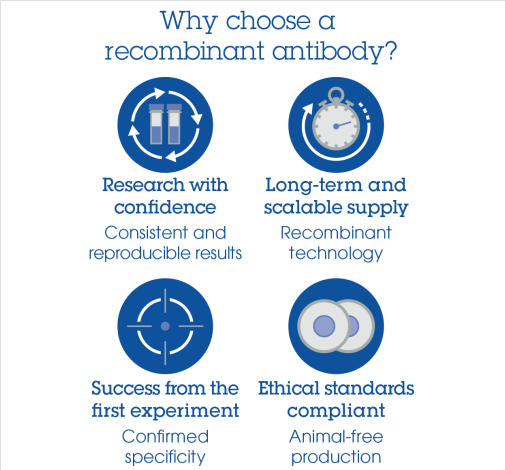


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MUC2 antibody [EPR23479-47] (ab272692)

Immunohistochemical analysis of paraffin-embedded human colon tissue labeling MUC2 with ab272692 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Postive staining on human colon (PMID: 28693267). The section was incubated with ab272692 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.

Secondary antibody only control: Secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Anti-MUC2 antibody [EPR23479-47] (ab272692)

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