abcam

ab218998

Anti-MUC1 antibody [EP1024Y] - Low endotoxin, Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP1024Y
Purification technique	Affinity purification Protein A
Specificity	Based on the immunogen sequence, the antibody recognises several isoforms of MUC1 (Uniprot ID P15941). They are Isoform Y (28 kDa), Isoform Y-LSP (28 kDa), Isoform S2 (17 kDa) and Isoform J13 (28 kDa).
Concentration	1.01 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	MUC1 isoform 7.

Species	Mouse
Dilution info	-
Notes	MUC1 isoform 7.

Species	Rat
Dilution info	-
Notes	MUC1 isoform 7.

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information MUC1

Function The alpha subunit has cell adhesive properties. Can act both as an adhesion and an anti-adhesion protein. May provide a protective layer on epithelial cells against bacterial and enzyme attack. The beta subunit contains a C-terminal domain which is involved in cell signaling, through phosphorylations and protein-protein interactions. Modulates signaling in ERK, SRC and NF-kappa-B pathways. In activated T-cells, influences directly or indirectly the Ras/MAPK pathway. Promotes tumor progression. Regulates TP53-mediated transcription and determines cell fate in the genotoxic stress response. Binds, together with KLF4, the PE21 promoter element of TP53 and represses TP53 activity.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Storage information	Do Not Freeze

Notes

ab218998 is the carrier-free version of ab45167.
Isoform 7 of MUC1 behaves as a receptor and binds the secreted isoform 5. The binding induces the phosphorylation of the isoform 7, alters cellular morphology and initiates cell signaling. The mouse and rat recommendation is based on WB results.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

What does low endotoxin mean?
Our low endotoxin, azide-free formats have low endotoxin level (1 EU/mg, determined by the TAL assay) and are free from azide, to achieve consistent experimental results in functional assays.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

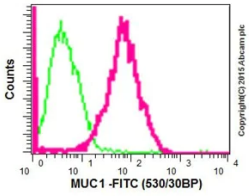
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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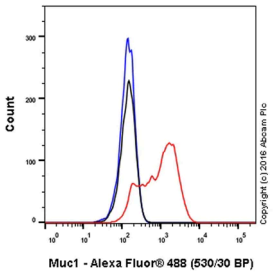
7 product images



Flow Cytometry - Anti-MUC1 antibody [EP1024Y] - Low endotoxin, Azide free (ab218998)

MUC1 Flow Cytometry staining using rabbit Anti-MUC1 antibody

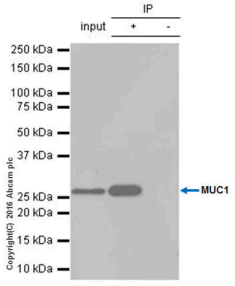
Flow cytometry analysis of T47D (human mammary gland ductal carcinoma) cells labelling MUC1 with unpurified ab45167 (pink) at a dilution of 1/150. Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG was used as the secondary antibody. Rabbit monoclonal IgG (ab172730) was used as the isotype control (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab45167).



Flow Cytometry - Anti-MUC1 antibody [EP1024Y] - Low endotoxin, Azide free (ab218998)

MUC1 Flow Cytometry staining using rabbit Anti-MUC1 antibody

Flow Cytometry analysis of A549 (human lung carcinoma cell line) cells labeling MUC1 with purified ab45167 at 1/20 dilution (10 ug/ml). Cells were fixed with 4% paraformaldehyde. A goat anti-rabbit IgG (Alexa Fluor® 488) was used as the secondary antibody at 1/2000 dilution. Black - Isotype control, Rabbit monoclonal IgG. Blue - unlabeled control, cells without incubation with primary antibody and secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab45167).



Immunoprecipitation - Anti-MUC1 antibody [EP1024Y] - Low endotoxin, Azide free (ab218998)

ab45167 (purified) at 1/20 dilution (2ug) immunoprecipitating MUC1 in Human fetal lung lysate.
Lane 1 (input): Human fetal lung lysate 10ug

Lane 2 (+): ab45167 + Human fetal lung lysate 10ug

Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab45167 in Human fetal lung lysate

For western blotting, ab131366 VeriBlot for IP (HRP) was used for detection at 1/1000 dilution.

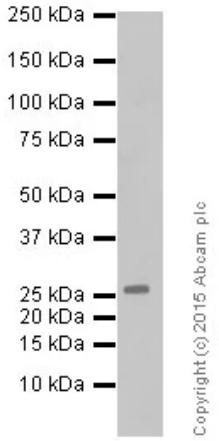
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab45167).
All lanes:
Immunoprecipitation - Anti-MUC1 antibody [EP1024Y] (ab45167)

Predicted band size: 122 kDa

Observed band size: 27 kDa



Western blot - Anti-MUC1 antibody [EP1024Y] - Low endotoxin, Azide free (ab218998)

MUC1 Western blot staining of T47D cell lysate using rabbit Anti-MUC1 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab45167).
Blocking and diluting buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-MUC1 antibody [EP1024Y] (ab45167) at 1/2000 dilution

All lanes:
T47D cell lysate at 10 µg

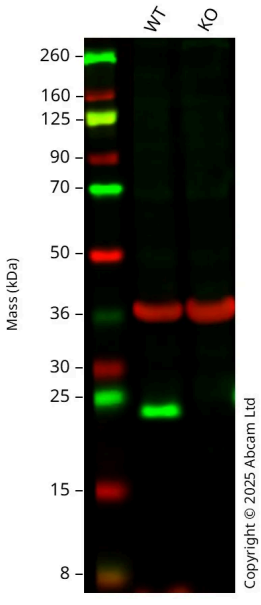
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/1000 dilution

Predicted band size: 122 kDa

Observed band size: 27 kDa

Exposure time: 3min



Western blot - Anti-MUC1 antibody [EP1024Y] - Low endotoxin, Azide free (ab218998)

MUC1 Western blot staining using rabbit Anti-MUC1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab45167).
Lanes 1- 2: Merged signal (red and green). Green - ab45167 observed at 24 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.

ab45167 was shown to react with MUC1 in Wild-type HeLa (Human epithelial cell line from cervix adenocarcinoma) cells in western blot. Loss of signal was observed when knockout cell line ab255412 (knockout cell lysate ab263764) was used. Wild-type HeLa (Human epithelial cell line from cervix adenocarcinoma) and MUC1 knockout HeLa (Human epithelial cell line from cervix adenocarcinoma) cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab45167 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution

respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-MUC1 antibody [EP1024Y] (ab45167) at 1/1000 dilution

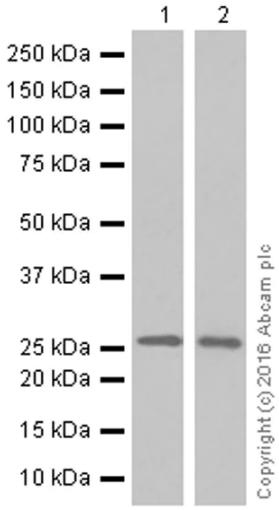
Lane 1:
Wild-type HeLa (Human epithelial cell line from cervix adenocarcinoma) cell lysate at 20 µg

Lane 2:
Western blot - Human MUC1 knockout HeLa cell lysate (ab263764) at 20 µg

Performed under reducing conditions.

Predicted band size: 122 kDa

Observed band size: 24 kDa



Western blot - Anti-MUC1 antibody [EP1024Y] - Low endotoxin, Azide free (ab218998)

MUC1 Western blot staining using rabbit Anti-MUC1 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab45167).
Blocking and diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Western blot - Anti-MUC1 antibody [EP1024Y] (ab45167) at 1/1000 dilution

Lane 1:
Human colon cancer lysate at 20 µg

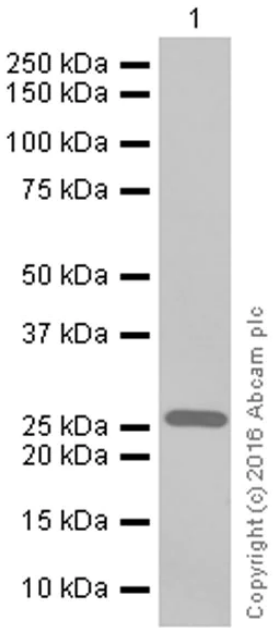
Lane 2:
Rat liver lysate at 20 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 122 kDa

Observed band size: 27 kDa



Western blot - Anti-MUC1 antibody [EP1024Y] - Low endotoxin, Azide free (ab218998)

MUC1 Western blot staining of Mouse liver lysate using rabbit Anti-MUC1 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab45167).
Blocking and diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Western blot - Anti-MUC1 antibody [EP1024Y] (ab45167) at 1/5000 dilution

All lanes:
Mouse liver lysate at 20 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 122 kDa

Observed band size: 27 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.