

Product datasheet

Anti-MUC4 antibody [5B12] ab60720

★★★★★ [2 Abreviews](#) [22 References](#) [3 Images](#)

Overview

Product name	Anti-MUC4 antibody [5B12]
Description	Mouse monoclonal [5B12] to MUC4
Host species	Mouse
Tested applications	Suitable for: WB, IHC-P, Flow Cyt
Species reactivity	Reacts with: Human
Immunogen	Recombinant fragment with tag: GVSLFPYGAD AGDLEFVRRT VDFTSPLFKP ATGFPLGSSL RDSLYFTDNG QIIFPESDYQ IFSYPNPLPT GFTGRDPVAL VAPFWDDADF STGRGTTFYQ EYETFYGEHS , corresponding to amino acids 79-189 of Human MUC4 Run BLAST with ExPASy Run BLAST with NCBI
Positive control	WB: HeLa cell lysate. IHC-P: Human stomach tissue. Flow Cyt: A549 cells.
General notes	<p>This product was changed from ascites to tissue culture supernatant on 12 Feb 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.</p> <p>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.</p> <p>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</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.4 Constituent: PBS
Purity	Tissue culture supernatant
Clonality	Monoclonal
Clone number	5B12

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab60720 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)	Use at an assay dependent concentration. Detects a band of approximately 120 kDa (predicted molecular weight: 235 kDa).
IHC-P	★★★★★ (1)	Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target

Function

May play a role in tumor progression. Ability to promote tumor growth may be mainly due to repression of apoptosis as opposed to proliferation. Has anti-adhesive properties. Seems to alter cellular behavior through both anti-adhesive effects on cell-cell and cell-extracellular matrix interactions and in its ability to act as an intramembrane ligand for ERBB2. Plays an important role in cell proliferation and differentiation of epithelial cells by inducing specific phosphorylation of ERBB2. The MUC4-ERBB2 complex causes site-specific phosphorylation of the ERBB2 'Tyr-1248'. In polarized epithelial cells segregates ERBB2 and other ERBB receptors and prevents ERBB2 from acting as a coreceptor. The interaction with ERBB2 leads to enhanced expression of CDKN1B. The formation of a MUC4-ERBB2-ERBB3-NRG1 complex leads to down-regulation of CDKN1B, resulting in repression of apoptosis and stimulation of proliferation.

Tissue specificity

Expressed in the thymus, thyroid, lung, trachea, esophagus, stomach, small intestine, colon, testis, prostate, ovary, uterus, placenta, and mammary and salivary glands. Expressed in carcinomas arising from some of these epithelia, such as lung cancers, squamous cell carcinomas of the upper aerodigestive tract, mammary carcinomas, biliary tract, colon, and cervix cancers. Minimally or not expressed in the normal pancreas or chronic pancreatitis, but is highly expressed in pancreatic tumors and pancreatic tumor cell lines.

Sequence similarities

Contains 1 AMOP domain.
Contains 2 EGF-like domains.
Contains 1 NIDO domain.
Contains 1 VWFD domain.

Developmental stage

Expressed early in the primitive gut before respiratory and digestive epithelial cells have acquired their tissue and cell specificity. Expressed at the basal surface of the epithelium from week 14 to 26 weeks and then predominantly localized in only parietal cells. Immediately before birth, found in the cytoplasm of the mucous columnar epithelial cells. In the embryo expressed in skin, then disappears late in gestation.

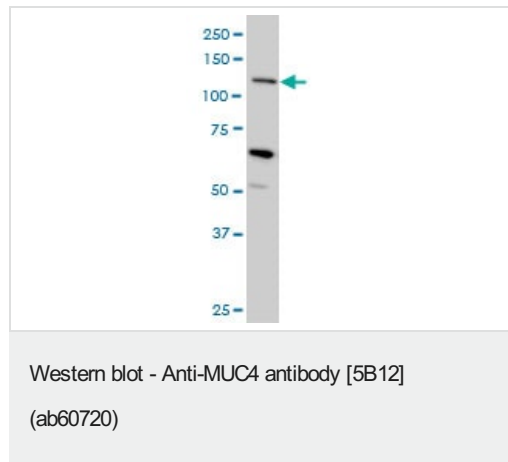
Post-translational modifications

Proteolytically cleaved into 2 chains, mucin-4 alpha chain and mucin-4 beta chain.
mucin-4 alpha chain is highly O-glycosylated.
mucin-4 beta chain is predominantly N-glycosylated.

Cellular localization

Secreted; Cell membrane and Membrane. Secreted. Isoforms lacking the Cys-rich region, EGF-like domains and transmembrane region are secreted. Secretion occurs by splicing or proteolytic processing.

Images



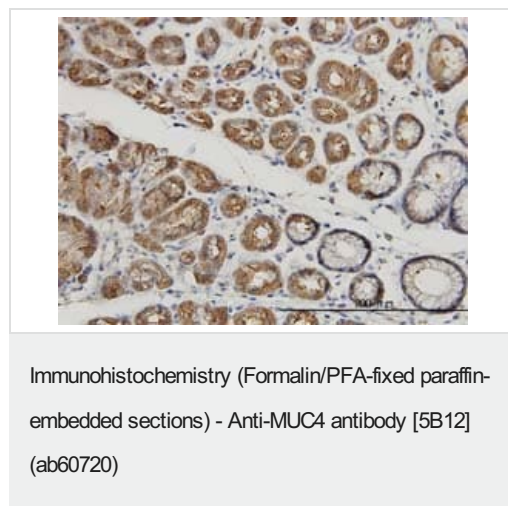
Anti-MUC4 antibody [5B12] (ab60720) at 1 µg/ml + HeLa cell lysate at 25 µg

Predicted band size: 235 kDa

Observed band size: 120 kDa

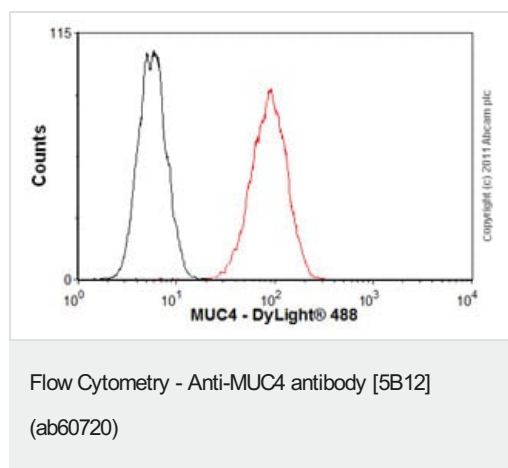
Additional bands at: 52 kDa, 65 kDa. We are unsure as to the identity of these extra bands.

This image was generated using the ascites version of the product.



MUC4 antibody (ab60720) used in immunohistochemistry at 3µg/mL on formalin fixed and paraffin embedded human stomach.

This image was generated using the ascites version of the product.



Overlay histogram showing A549 cells stained with ab60720 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab60720, 0.5µg/1x10⁶ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) ([ab96879](#)) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] ([ab91361](#), 1µg/1x10⁶ cells) used under the same conditions.

Acquisition of >5,000 events was performed. This antibody gave a positive signal in A549 cells fixed with 4% paraformaldehyde/permeabilized in 0.1% PBS-Tween used under

the same conditions.

This image was generated using the ascites version of the product.

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