abcam

ab24071

Anti-Mucin 5AC antibody [2-11M1]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.3 Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human MUC5AC. Database link P98088
Clone number	2-11M1
Purification technique	Affinity purification Protein G
Light chain type	kappa
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	2 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information MUC5AC

Function	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 (PubMed:14535999, PubMed:14718370). Interacts with H.pylori in the gastric epithelium, Barrett's esophagus as well as in gastric metaplasia of the duodenum (GMD) (PubMed:14535999).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot

Notes

This antibody reacts with peptide core of gastric mucin restricted to the surface gastric epithelium. It characterised the M1-b epitope, completely destroyed by b-mercapto-ethano. The M1-b epitope is found located on a 58 kD and 40 kD peptide after trypsin treatment of native M1 mucin. This M1-b epitope coprecipites with the M1-f epitope encoded by Mucin 5AC gene. It is probably associated with the gastric mucin encoded by Mucin 5AC gene or with a gastric mucin encoded by another gastric MUC gene which polymerized with the M1/Mucin 5AC gastric mucin.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Mucin 5AC also known simply as MUC5AC is a high molecular weight glycoprotein with a mass in the megadaltons typically found in the human respiratory gastrointestinal and reproductive tracts. It is a major component of mucus which plays a critical role in protecting and lubricating the epithelial surfaces of these organs. MUC5AC is primarily expressed in the goblet cells of the respiratory epithelium and the stomach lining. Due to its significance researchers often use a

	MUC5AC ELISA or other detection methods such as tagging with Alexa Fluor 555 to measure its levels in various tissues.
Biological function summary	The functions of MUC5AC are central to the maintenance of the protective mucus barrier on epithelial surfaces preventing pathogen invasion and facilitating the clearance of inhaled particles. It is a part of the gel-forming mucin family and often forms complex structures by polymerizing with other mucins like MUC2 and MUC5B contributing to the viscoelastic properties of mucus. These interactions ensure the formation of a stable and robust mucosal barrier.
Pathways	The regulation of MUC5AC production involves several signaling pathways including the EGFR (epidermal growth factor receptor) pathway and the IL-13/STAT6 pathway. These pathways influence mucin production and secretion particularly in response to growth factors and inflammatory cytokines. Proteins such as 13M1 and 11M1 interact with MUC5AC within these pathways modulating its expression and function. This regulation is essential for normal mucus homeostasis and response to environmental challenges.
Associated diseases and disorders	MUC5AC has a strong association with respiratory conditions like asthma and chronic obstructive pulmonary disease (COPD). In these diseases the overproduction or altered composition of MUC5AC contributes to airway obstruction and reduced pulmonary function. MUC5AC levels can be indicative of disease severity and are often measured via tests like the 5AC blood test. In these contexts proteins such as 5AC protein and 45M1 are often studied for their roles in facilitating disease progression and as potential therapeutic targets to modulate mucin levels in affected individuals.

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

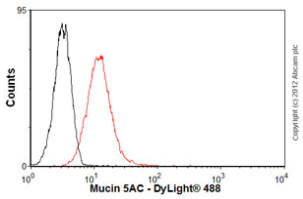
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - Anti-Mucin 5AC antibody [2-11M1] (ab24071)

Mucin 5AC Flow Cytometry staining using mouse Anti-Mucin 5AC antibody

Overlay histogram showing A549 cells stained with ab24071 (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 (ab24071, 2µg/1x10^6 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 IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

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