

Product Datasheet

MUC5AC Antibody (45M1)

NBP2-15196-0.1mg

Unit Size: 0.1 mg

Store at 4C.

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NBP2-15196-0.1mg

MUC5AC Antibody (45M1)

Product Information	
Unit Size	0.1 mg
Concentration	0.2 mg/ml
Storage	Store at 4C.
Clonality	Monoclonal
Clone	45M1
Preservative	0.05% Sodium Azide
Isotype	IgG1 Kappa
Purity	Protein A or G purified
Buffer	10 mM PBS with 0.05% BSA

Product Description	
Description	200ug/ml of antibody purified from Bioreactor Concentrate by Protein A or G. Prepared in 10 mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0 mg/ml. (NBP2-32732) Antibody with azide - store at 2 to 8C. Antibody without azide - store at -20 to -80C.
Host	Mouse
Gene ID	4586
Gene Symbol	MUC5AC
Species	Human, Mouse, Rat, Porcine, Chicken, Feline, Mammal, Monkey, Rabbit, Bovine (Negative)
Reactivity Notes	Hedgehog. Does not react with Bovine. Use in Mouse reported in scientific literature (PMID:34260916)
Specificity/Sensitivity	This monoclonal antibody recognizes the peptide core of gastric mucin M1 (recently identified as Mucin 5AC).Its epitope is located in the C-terminal cysteine rich part of the peptide core of MUC5AC. Its epitope is destroyed by beta-mercaptoethanol but not by periodate treatment. This mucin is present in primary ovarian mucinous cancer but usually absent in colorectal adenocarcinoma, thus showing an expression pattern opposite to MUC2. Together with a panel of antibodies, Anti-MUC5AC may be useful for differential identification of primary mucinous ovarian tumors from colon adenocarcinoma metastatic to the ovary. MUC5AC antibodies may also be useful for identification of intestinal metaplasia as well as in the identification of pancreatic carcinoma and pre-cancerous changes vs. normal pancreas.
Immunogen	M1 mucin preparation from the fluid of an ovarian mucinous cyst belonging to an O Le(a-b) patient

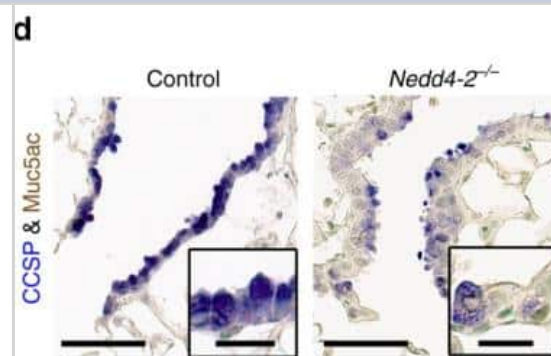
Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Dot Blot, Flow Cytometry, Flow (Intracellular), Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Multiplex Immunofluorescence
Recommended Dilutions	Western Blot, Flow Cytometry 0.5-1ug/million cells, Immunohistochemistry, Immunocytochemistry/ Immunofluorescence 1-2ug/ml, Immunohistochemistry-Paraffin 1-2 ug/ml, Immunohistochemistry-Frozen 0.5ug/ml, Dot Blot, Flow (Intracellular), Multiplex Immunofluorescence

Application Notes

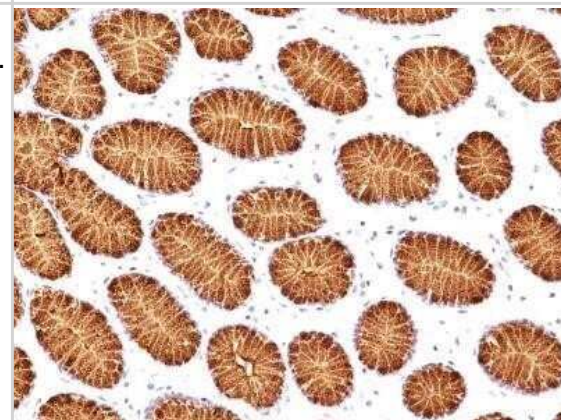
Immunohistochemistry (Formalin-fixed): 1-2ug/ml for 30 minutes at RT. Staining of formalin-fixed tissues requires heating tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 45 min at 95C followed by cooling at RT for 20 minutes. Optimal dilution for a specific application should be determined. Use in IHC-P reported in scientific literature (PMID:34260916).

Images

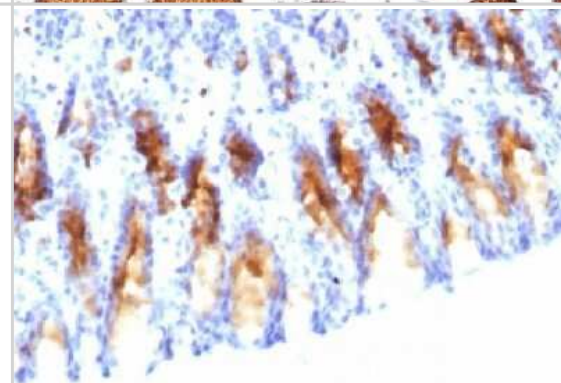
MUC5AC-Antibody-45M1-Immunohistochemistry-NBP2-15196-
img0013.jpg



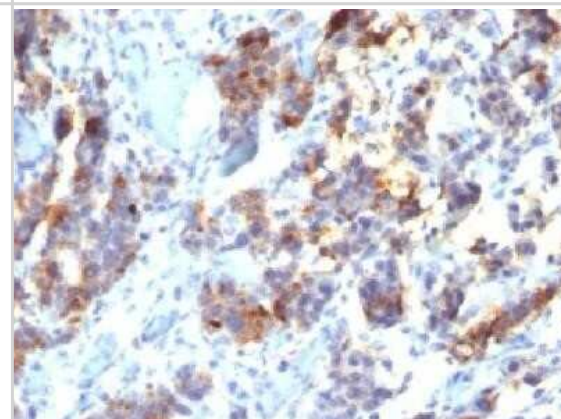
Immunohistochemistry-Paraffin: MUC5AC Antibody (45M1) [NBP2-15196] - Analysis using the Azide and BSA Free version of NBP2-15196. Detection Human stomach.



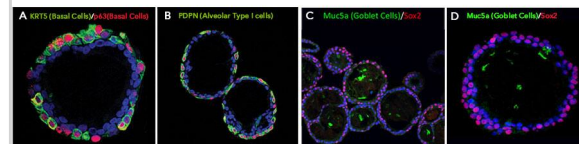
Immunohistochemistry-Paraffin: MUC5AC Antibody (45M1) [NBP2-15196] - Formalin-fixed, paraffin-embedded Rat stomach stained with MUC5AC Monoclonal Antibody (45M1).



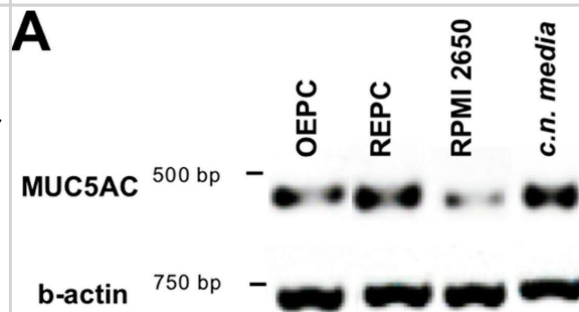
Immunohistochemistry-Paraffin: MUC5AC Antibody (45M1) [NBP2-15196] - Formalin-fixed, paraffin-embedded human Gastric Carcinoma stained with MUC5AC Monoclonal Antibody (45M1).



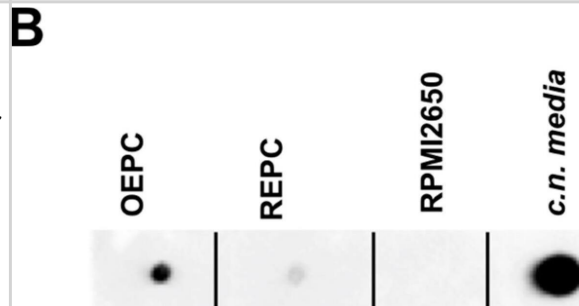
Adult stem cells isolated from human lung biopsy tissue were cultured following the steps detailed in the [human lung organoid culture protocol](#). Lung organoids were stained with a (A) Goat Anti-Human p63/TP73L Polyclonal Antibody (Catalog # AF1916; red) and a rabbit anti-human cytokeratin 5 (KRT5) monoclonal antibody (green) to visualize basal cells; a (B) Hamster Anti-Mouse Podoplanin (PDPN) Monoclonal Antibody (Novus Biologicals, Catalog # NB600-1015; green) to visualize alveolar type I cells and a Goat Anti-Human p63/TP73L Polyclonal Antibody (Catalog # AF1916; red) to visualize basal cells; and a (C, D) Mouse Anti-MUC5AC Monoclonal Antibody (Novus Biologicals, Catalog # NBP2-15196; green) to visualize goblet cells and a Mouse Anti-Human/Mouse/Rat SOX2 Monoclonal Antibody (Catalog # MAB2018; red). All samples were counterstained with DAPI (Catalog # 5748; blue).



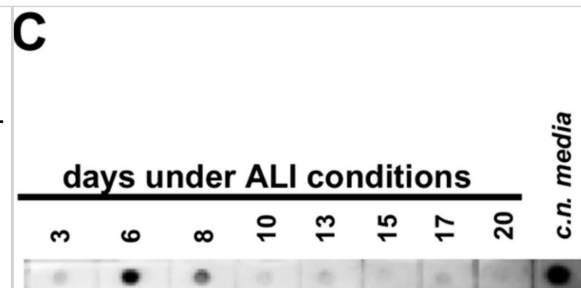
Dot Blot: MUC5AC Antibody (45M1) [NBP2-15196] - Mucin MUC5AC expression & immunoreactivity in primary cells of the nasal cavity. (A) Transcription analysis (RT-PCR) of MUC5AC gene in olfactory epithelial primary cells (OEPC), respiratory epithelial primary cells (REPC), tumour cell line RPMI 2650 & the concha nasalis media (c.n. media). MUC5AC transcript signal was referenced to beta-actin transcript signal. The significance was calculated by comparison of the OEPC, REPC & RPMI 2650 data with the c.n. media transcription data using an unpaired t-test. * $p < 0.05$; $n = 4$; error bars represent mean \pm SD. (B) Dot blot analysis of MUC5AC protein in lysates of OEPC, REPC, RPMI 2650 & c.n. media. All OEPC & REPC cultures shown in (A,B) were cultivated for 14 days in vitro in T flasks. (C) Immunoreactivity against MUC5AC in OEPC that were first cultured for 7 days in T flask with a minimum confluency of 70% then under ALI conditions additional 20 days. Apically secreted mucus was collected at the days indicated corresponding to a mucin production of 2 to 3 days. Statistical analysis: unpaired t-test, * $p < 0.05$ compared to the standard model RPMI 2650. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31374872>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Dot Blot: MUC5AC Antibody (45M1) [NBP2-15196] - Mucin MUC5AC expression & immunoreactivity in primary cells of the nasal cavity. (A) Transcription analysis (RT-PCR) of MUC5AC gene in olfactory epithelial primary cells (OEPC), respiratory epithelial primary cells (REPC), tumour cell line RPMI 2650 & the concha nasalis media (c.n. media). MUC5AC transcript signal was referenced to beta-actin transcript signal. The significance was calculated by comparison of the OEPC, REPC & RPMI 2650 data with the c.n. media transcription data using an unpaired t-test. * $p < 0.05$; $n = 4$; error bars represent mean \pm SD. (B) Dot blot analysis of MUC5AC protein in lysates of OEPC, REPC, RPMI 2650 & c.n. media. All OEPC & REPC cultures shown in (A,B) were cultivated for 14 days in vitro in T flasks. (C) Immunoreactivity against MUC5AC in OEPC that were first cultured for 7 days in T flask with a minimum confluency of 70% then under ALI conditions additional 20 days. Apically secreted mucus was collected at the days indicated corresponding to a mucin production of 2 to 3 days. Statistical analysis: unpaired t-test, * $p < 0.05$ compared to the standard model RPMI 2650. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31374872>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



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Publications

Jung O, Tung YT, Sim E et al. Development of human-derived, three-dimensional respiratory epithelial tissue constructs with perfusable microvasculature on a high-throughput microfluidics screening platform *Biofabrication* 2022-04-01 [PMID: 35166694] (Flow Cytometry)

Zania Diabasana, Jeanne-Marie Perotin, Randa Belgacemi, Julien Ancel, Pauline Mulette, Claire Launois et al. Chr15q25 Genetic Variant rs16969968 Alters Cell Differentiation in Respiratory Epithelia *International Journal of Molecular Sciences* 2021-06-22 [PMID: 34206324]

Chantal Cossette, Lisa A. Miller, Qiuji Ye, Shishir Chourey, Chintam Nagendra Reddy, Joshua Rokach, William S. Powell Targeting the OXE receptor with a selective antagonist inhibits allergen-induced pulmonary inflammation in non-human primates *British journal of pharmacology* 2022-01-07 [PMID: 34766334]

Yusuke Ueda, Haruta Mogami, Yosuke Kawamura, Masahito Takakura, Asako Inohaya, Eriko Yasuda, Yu Matsuzaka, Yoshitsugu Chigusa, Shinji Ito, Masaki Mandai, Eiji Kondoh Cervical MUC5B and MUC5AC are Barriers to Ascending Pathogens During Pregnancy. *The Journal of clinical endocrinology and metabolism* 2022-11-24 [PMID: 36112402]

Jung MA, Song HK, Jo K et al. *Gleditsia sinensis* Lam. aqueous extract attenuates nasal inflammation in allergic rhinitis by inhibiting MUC5AC production through suppression of the STAT3/STAT6 pathway *Biomedicine & pharmacotherapy = Biomedecine & pharmacotherapie* 2023-05-01 [PMID: 36921533] (IHC-P, Mouse)

Details:

Dilution used in IHC-P 1:1000

Xu K, Liu XN, Zhang HB et al. Tear film instability is associated with weakened colocalization between occludin and MUC5AC in scopolamine-induced dry eye disease (DED) rats *International ophthalmology* 2023-02-01 [PMID: 35908134]

Tao X, Li J, He J et al. *Pinellia ternata* (Thunb.) Breit. Attenuates the allergic airway inflammation of cold asthma via inhibiting the activation of TLR4-mediated NF- κ B and NLRP3 signaling pathway *Journal of ethnopharmacology* 2023-05-31 [PMID: 37268256]

Turner M, Cox K, Liu S et al. Specific Targeting and Labeling of Colonic Polyps in CPC-APC Mice with Mucin 5AC Fluorescent Antibodies: A Model for Detection of Early Colon Cancer *Current Issues in Molecular Biology* 2023-04-11 [PMID: 37185743] (IHC)

Koh K, Bonser L, Eckalbar W et al. Genomic characterization and therapeutic utilization of IL-13-responsive sequences in asthma *Cell Genomics* 2022-12-01 [PMID: 36777184] (FLOW, Human)

Seidel V, Hoffmann R, Braun A et al. Distribution and morphology of Clara cells in common marmosets (*Callithrix jacchus*). *J Med Primatol.* 2013-04-01 [PMID: 23473106]

Bu ML, Li MH, Feng M et al. Poly(I:C) Exacerbates Airway Goblet Cell Hyperplasia and Lung Inflammation in HDM-Exposed Balb/C Mice by YAP/FOXO1 Pathway *International archives of allergy and immunology* 2023-02-23 [PMID: 36822170]

Meyerholz DK, Stoltz DA, Namati E et al. Loss of cystic fibrosis transmembrane conductance regulator function produces abnormalities in tracheal development in neonatal pigs and young children. *Am J Respir Crit Care Med* 2010-11-01 [PMID: 20622026]

More publications at <http://www.novusbio.com/NBP2-15196>





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Products Related to NBP2-15196-0.1mg

HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-43319-0.5mg	Mouse IgG1 Kappa Isotype Control (P3.6.2.8.1)
H00004586-Q01-10ug	Recombinant Human MUC5AC GST (N-Term) Protein

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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