

Mucin 5B (5B#19-2E): sc-21768

BACKGROUND

Mucins are a group of high molecular weight glycoproteins consisting of a mucin core protein and O-linked carbohydrates. The Mucin 5B gene, which contains a 3' *cis*-element, is one of the four mucin genes mapped to human chromosome 11p15.5. Although Mucin 5B is the prominent human gallbladder mucin, it is also expressed and secreted in the colon. In addition, Mucin 5B is expressed in non-inflamed middle ears and normal esophagus, and is upregulated by chronic inflammation and highly secreted in the diseased middle ear. Mucin 5B is abnormally expressed in gastric carcinomatous tissues. Its expression in gastric cancer cells is controlled by a highly active distal promoter, which is upregulated by protein kinase C and repressed under the influence of methylation. Mucous differentiation and expression of Mucin 5B is retinoic acid- (RA) or retinol-dependent. RA control of mucin gene is mediated by the retinoid acid receptor RAR α and, to a lesser extent, by RAR γ . The correlation of mucin protein levels in human cervical mucous with the peak at midcycle suggests that mucin may be important in sperm transit to the uterus.

CHROMOSOMAL LOCATION

Genetic locus: MUC5B (human) mapping to 11p15.5; Muc5b (mouse) mapping to 7 F5.

SOURCE

Mucin 5B (5B#19-2E) is a mouse monoclonal antibody raised against a peptide mapping at the N-terminus of Mucin 5B of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mucin 5B (5B#19-2E) is available conjugated to agarose (sc-21768 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-21768 PE), fluorescein (sc-21768 FITC), Alexa Fluor[®] 488 (sc-21768 AF488), Alexa Fluor[®] 546 (sc-21768 AF546), Alexa Fluor[®] 594 (sc-21768 AF594) or Alexa Fluor[®] 647 (sc-21768 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-21768 AF680) or Alexa Fluor[®] 790 (sc-21768 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Mucin 5B (5B#19-2E) is recommended for detection of Mucin 5B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

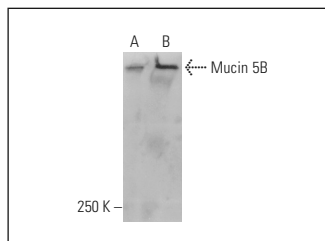
Suitable for use as control antibody for Mucin 5B siRNA (h): sc-106263, Mucin 5B siRNA (m): sc-149704, Mucin 5B shRNA Plasmid (h): sc-106263-SH, Mucin 5B shRNA Plasmid (m): sc-149704-SH, Mucin 5B shRNA (h) Lentiviral Particles: sc-106263-V and Mucin 5B shRNA (m) Lentiviral Particles: sc-149704-V.

Molecular Weight of Mucin 5B: 600 kDa.

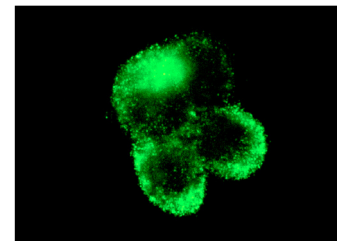
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Mucin 5B (5B#19-2E): sc-21768. Western blot analysis of Mucin 5B expression in secreted media from human tracheobronchial epithelial culture (A) and human saliva (B). Kindly provided by Dr. Reen Wu, University of California at Davis.



Mucin 5B (5B#19-2E): sc-21768. Immunofluorescence staining of methanol-fixed MCF7 cells showing cytoplasmic and cell surface localization.

SELECT PRODUCT CITATIONS

- Liegl, B., et al. 2007. Mammary and extramammary Paget's disease: an immunohistochemical study of 83 cases. *Histopathology* 50: 439-447.
- Choi, H.J., et al. 2009. Signal pathway of 17 β -estradiol-induced MUC5B expression in human airway epithelial cells. *Am. J. Respir. Cell Mol. Biol.* 40: 168-178.
- Shen, Y., et al. 2011. Role of aquaporin 5 in antigen-induced airway inflammation and mucous hyperproduction in mice. *J. Cell. Mol. Med.* 15: 1355-1363.
- Duncan, G.A., et al. 2018. An adeno-associated viral vector capable of penetrating the mucus barrier to inhaled gene therapy. *Mol. Ther. Methods Clin. Dev.* 9: 296-304.
- Albano, G.D., et al. 2019. Can PBDEs affect the pathophysiologic complex of epithelium in lung diseases? *Chemosphere* 241: 125087.
- Albano, G.D., et al. 2020. A 3D "in vitro" model to study hyaluronan effect in nasal epithelial cell line exposed to double-stranded RNA poly(I:C). *Biomol. Ther.* 28: 272-281.
- Kerschner, J.L., et al. 2020. A functional genomics approach to investigate the differentiation of iPSCs into lung epithelium at air-liquid interface. *J. Cell. Mol. Med.* 24: 9853-9870.
- Du, X., et al. 2020. Respiratory syncytial virus infection-induced mucus secretion by down-regulation of miR-34b/c-5p expression in airway epithelial cells. *J. Cell. Mol. Med.* 24: 12694-12705.
- Yin, X., et al. 2021. MDA5 governs the innate immune response to SARS-CoV-2 in lung epithelial cells. *Cell Rep.* 34: 108628.
- Song, D., et al. 2021. Modeling airway dysfunction in asthma using synthetic mucus biomaterials. *ACS Biomater. Sci. Eng.* 7: 2723-2733.

RESEARCH USE

For research use only, not for use in diagnostic procedures.