

Mucin 5B (4H310): sc-71622

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.

REFERENCES

1. Pigny, P., et al. 1996. Identification of a 42 kDa nuclear factor (NF1-Mucin 5B) from HT-29 MTX cells that binds to the 3' region of human mucin gene Mucin 5B. *Biochem. Biophys. Res. Commun.* 220: 186-191.
2. van Klinken, B.J., et al. 1998. Mucin 5B is the prominent mucin in human gallbladder and is also expressed in a subset of colonic goblet cells. *Am. J. Physiol.* 274: 871-878.
3. Kashiwagi, H., et al. 2001. Mucin 1 and Mucin 2 expression in human gallbladder carcinoma: a clinicopathological study and relationship with prognosis. *Oncol. Rep.* 8: 485-489.
4. Lin, J., et al. 2001. Characterization of mucins in human middle ear and eustachian tube. *Am. J. Physiol. Lung Cell Mol. Physiol.* 280: 1157-1167.
5. Smirnova, M.G., et al. 2001. Upregulation of mucin secretion in HT29-MTX cells by the pro-inflammatory cytokines tumor necrosis factor- α and IL-6. *Eur. Cytokine Netw.* 12: 119-125.
6. Perrais, M., et al. 2001. Aberrant expression of human mucin gene Muc 5B in gastric carcinoma and cancer cells. Identification and regulation of a distal promoter. *J. Biol. Chem.* 276: 15386-15396.
7. Gray, T., et al. 2001. Regulation of mucous differentiation and mucin gene expression in the tracheobronchial epithelium. *Toxicology* 160: 35-46.
8. Gipson, I.K., et al. 2001. The amount of Muc 5B mucin in cervical mucus peaks at midcycle. *J. Clin. Endocrinol. Metab.* 86: 594-600.

CHROMOSOMAL LOCATION

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

SOURCE

Mucin 5B (4H310) 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.

APPLICATIONS

Mucin 5B (4H310) 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.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

1. Ma, H., et al. 2018. hsa-miR-93 regulates Mucin family gene expression via WNT/ β -catenin pathway in intrahepatic stone disease. *Clin. Res. Hepatol. Gastroenterol.* pii: S2210-7401(18)30073-1.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.