

Mucin 5AC (H-160): sc-20118

BACKGROUND

Mucins are a group of high molecular weight glycoproteins consisting of a mucin core protein and O-linked carbohydrates. Mucin 6 carries GlcNAc α 1 \rightarrow 4Gal β \rightarrow R structures, indicating that α 1, 4-N-acetylglucosaminyltransferase is important to the formation of the mucous glycoproteins *in vivo*. Mucin 5AC is a gel-forming mucin that is secreted from surface mucous cells. Glucocorticoid is required for the expression of Mucin 5AC mRNA and high doses of hydrocortisone suppresses its expression. Additionally, asthmatic fluid stimulates Mucin 5AC synthesis several-fold. The pro-inflammatory cytokines IL-6 and TNF α stimulate Mucin 5AC secretion and thus contribute to the upregulation of mucin by chronic inflammation. Expression of Mucin 5AC is retinoic acid (RA)- or retinol-dependent, and RA control of mucin genes is mediated by the retinoid acid receptor RAR α and, to a lesser extent, by RAR γ . Thyroid hormone binding to thyroid receptors inhibits Mucin 5AC gene expression. Mucin 5AC is also expressed in normal endocervical epithelium, small intestine, gastric cells (Lewis type 1) and gastric metaplasia and it is one of the major mucins in the ethmoid mucosa.

REFERENCES

1. Longphre, M., et al. 1999. Allergen-induced IL-9 directly stimulates mucin transcription in respiratory epithelial cells. *J. Clin. Invest.* 104: 1375-1382.
2. Riethdorf, L., et al. 2000. Differential expression of MUC2 and MUC5AC in benign and malignant glandular lesions of the cervix uteri. *Vichows Arch.* 437: 365-371.

CHROMOSOMAL LOCATION

Genetic locus: MUC5AC (human) mapping to 11p15.5.

SOURCE

Mucin 5AC (H-160) is a rabbit polyclonal antibody raised against amino acids 1214-1373 mapping within an internal region of Mucin 5AC of human origin.

PRODUCT

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

APPLICATIONS

Mucin 5AC (H-160) is recommended for detection of Mucin 5AC of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Mucin 5AC siRNA (h): sc-37131, Mucin 5AC shRNA Plasmid (h): sc-37131-SH and Mucin 5AC shRNA (h) Lentiviral Particles: sc-37131-V.

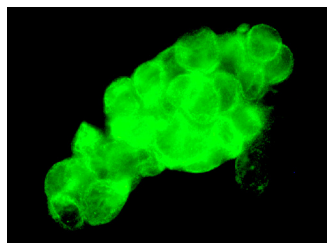
Molecular Weight of Mucin 5AC: 400-600 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

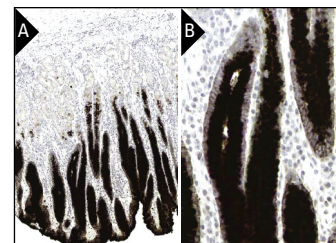
STORAGE

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

DATA



Mucin 5AC (H-160): sc-20118. Immunofluorescence staining of methanol-fixed MCF7 cells showing cytoplasmic and cell surface localization.



Mucin 5AC (H-160): sc-20118. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Yang, Y.C., et al. 2007. Isolation and characterization of human gastric cell lines with stem cell phenotypes. *J. Gastroenterol. Hepatol.* 22: 1460-1468.
2. Wan, H., et al. 2007. Amino acid 226 in the hemagglutinin of H9N2 influenza viruses determines cell tropism and replication in human airway epithelial cells. *J. Virol.* 81: 5181-5191.
3. Fujisawa, T., et al. 2009. Regulation of airway MUC5AC expression by IL-1 β and IL-17A; the NF κ B paradigm. *J. Immunol.* 183: 6236-6243.
4. Iwashita, J., et al. 2010. MUC5AC production is downregulated in NCI-H292 lung cancer cells cultured on type-IV collagen. *Mol. Cell. Biochem.* 337: 65-75.
5. White, S.R., et al. 2010. Expression of IL-4/IL-13 receptors in differentiating human airway epithelial cells. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 299: L681-L693.
6. 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.
7. Zhang, X., et al. 2011. Interferon- γ exacerbates dry eye-induced apoptosis in conjunctiva through dual apoptotic pathways. *Invest. Ophthalmol. Vis. Sci.* 52: 6279-6285.
8. White, S.R., et al. 2013. Human leukocyte antigen-G expression in differentiated human airway epithelial cells: lack of modulation by Th2-associated cytokines. *Respir. Res.* 14: 4.

RESEARCH USE

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

PROTOCOLS

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