

Mucin 5AC (A-5): sc-398985

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

- Longphre, M., et al. 1999. Allergen-induced IL-9 directly stimulates mucin transcription in respiratory epithelial cells. *J. Clin. Invest.* 104: 1375-1382.
- Riethdorf, L., et al. 2000. Differential expression of MUC2 and MUC5AC in benign and malignant glandular lesions of the cervix uteri. *Virchows Arch.* 437: 365-371.
- Guillem, P., et al. 2000. Mucin gene expression and cell differentiation in human normal, premalignant and malignant esophagus. *Int. J. Cancer* 88: 856-861.
- Jung, H.H., et al. 2000. Expression of mucin genes in chronic ethmoiditis. *Am. J. Rhinol.* 14: 63-70.
- Kashiwagi, H., et al. 2001. MUC1 and MUC2 expression in human gallbladder carcinoma: a clinicopathological study and relationship with prognosis. *Oncol. Rep.* 8: 485-489.
- Zhang, M.X., et al. 2001. Immunohistochemical demonstration of α 1,4-N-acetylglucosaminyltransferase that forms GlcNAc α 1, 4Gal β residues in human gastrointestinal mucosa. *J. Histochem. Cytochem.* 49: 587-596.
- Tanaka, T., et al. 2001. Effect of glucocorticoid on expression of rat MUC5AC mRNA in rat gastric mucosa *in vivo* and *in vitro*. *Biol. Pharm. Bull.* 24: 634-637.

CHROMOSOMAL LOCATION

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

SOURCE

Mucin 5AC (A-5) is a mouse monoclonal antibody raised against amino acids 1214-1373 mapping within an internal region of Mucin 5AC of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Mucin 5AC (A-5) is recommended for detection of Mucin 5AC of human origin by Western Blotting (starting dilution 1:100, 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) 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.

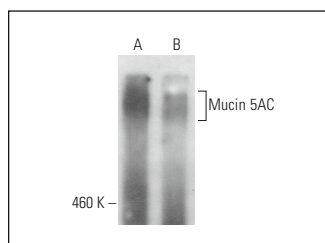
Molecular Weight of Mucin 5AC: 400-600 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, human lung extract: sc-363767 or human bronchus extract: sc-363754.

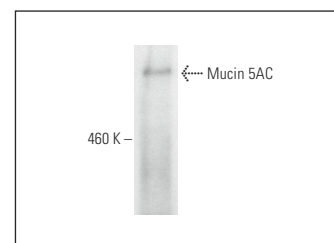
RECOMMENDED SUPPORT REAGENTS

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 MarkerTM 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.

DATA




Mucin 5AC (A-5): sc-398985. Western blot analysis of Mucin 5AC expression in human lung (A) and human bronchus (B) tissue extracts.



Mucin 5AC (A-5): sc-398985. Western blot analysis of Mucin 5AC expression in MCF7 whole cell lysate.

STORAGE

Store at 4 $^{\circ}$ C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.



CONJUGATES

See **Mucin 5AC (45M1): sc-21701** for Mucin 5AC antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.