

# Mucin 5AC (K-20): sc-16903

## BACKGROUND

Mucins are a group of high molecular weight glycoproteins consisting of a mucin core protein and O-linked carbohydrates. Mucin 6 carries GlcNAc $\alpha$ 1 $\rightarrow$ 4Gal $\beta$  $\rightarrow$ R structures, indicating that  $\alpha$ 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 $\alpha$  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 $\alpha$  and, to a lesser extent, by RAR $\gamma$ . 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.

## CHROMOSOMAL LOCATION

Genetic locus: Muc5ac (mouse) mapping to 7 F5.

## SOURCE

Mucin 5AC (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Mucin 5AC of mouse origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-16903 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4 $^{\circ}$  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.

## APPLICATIONS

Mucin 5AC (K-20) is recommended for detection of Mucin 5AC of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-37132, Mucin 5AC shRNA Plasmid (m): sc-37132-SH and Mucin 5AC shRNA (m) Lentiviral Particles: sc-37132-V.

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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Kuver, R., et al. 2006. Absence of CFTR is associated with pleiotropic effects on mucins in mouse gallbladder epithelial cells. *Am. J. Physiol. Gastrointest. Liver Physiol.* 291: G1148-G1154.
2. Henderson, W.R., Jr., et al. 2007. Importance of group X-secreted phospholipase A2 in allergen-induced airway inflammation and remodeling in a mouse asthma model. *J. Exp. Med.* 204: 865-877.
3. Jung, S.R., et al. 2009. Control of granule mobility and exocytosis by Ca<sup>2+</sup>-dependent formation of F-actin in pancreatic duct epithelial cells. *Traffic* 10: 392-410.
4. Horiguchi, K., et al. 2009. Expression of SLURP-1, an endogenous  $\alpha$ 7 nicotinic acetylcholine receptor allosteric ligand, in murine bronchial epithelial cells. *J. Neurosci. Res.* 87: 2740-2747.
5. Narumoto, O., et al. 2010. Down-regulation of secreted lymphocyte antigen-6/urokinase-type plasminogen activator receptor-related peptide-1 (SLURP-1), an endogenous allosteric  $\alpha$ 7 nicotinic acetylcholine receptor modulator, in murine and human asthmatic conditions. *Biochem. Biophys. Res. Commun.* 398: 713-718.
6. Ito, K., et al. 2011. Loss of Runx3 is a key event in inducing precancerous state of the stomach. *Gastroenterology* 140: 1536-1546.
7. Li, G., et al. 2013. Lyn mitigates mouse airway remodeling by downregulating the TGF- $\beta$ 3 isoform in house dust mite models. *J. Immunol.* 191: 5359-5370.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Mucin 5AC (45M1): sc-21701** or **Mucin 5AC (2-11M1): sc-59951**, our highly recommended monoclonal alternatives to Mucin 5AC (K-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Mucin 5AC (45M1): sc-21701**.