

Mucin 7 (V-20): sc-16918

BACKGROUND

Mucin glycoproteins are major constituents of the glycocalyx that covers mucosal epithelium. There are two broad classes of mucins: membrane-associated and secretory mucins. The Mucin 7 gene encodes a low-molecular-mass salivary mucin, Mucin 7 (also designated MG2, mucin glycoprotein 2), that lacks cysteine-rich domains and is secreted as a soluble monomer. The Mucin 7 glycoprotein can bind to a variety of microbes and this binding requires a cysteine-containing domain in the N-terminal region of Mucin 7. Mucin 7 is expressed in human submandibular/sublingual secretions and in mucous acinar cells. Among all normal malignant tissue samples and tumor cell lines, Mucin 7 is only expressed in bladder cancer cell lines and samples of invasive transitional cell carcinomas, suggesting differential Mucin 7 gene expression with the onset of malignant transformation of the bladder urothelium. Mucin 7 is also expressed in a variety of epithelial cancers. Expression of Mucin 7 is retinoic acid (RA)- or retinol-dependent and is mediated by the retinoid acid receptors RAR α and, to a lesser extent, by RAR γ . Thyroid hormone T3 binds to thyroid receptors and interacts with RA to inhibit mucin gene expression.

REFERENCES

- Bobek, L.A., et al. 1993. Molecular cloning, sequence and specificity of expression of the gene encoding the low molecular weight human salivary mucin (Muc 7). *J. Biol. Chem.* 268: 20563-20569.
- Khan, S.H., et al. 1998. *In situ* hybridization localized Mucin 7 mucin gene expression to the mucous acinar cells of human and Mucin 7-transgenic mouse salivary glands. *Glycoconj. J.* 15: 1125-1132.
- Bobek, L.A., et al. 1998. Tissue-specific expression of human salivary mucin gene, Mucin 7, in transgenic mice. *Transgenic Res.* 7: 195-204.
- Retz, M., et al. 1998. Differential Mucin Muc 7 gene expression in invasive bladder carcinoma in contrast to uniform Muc 1 and Muc 2 gene expression in both normal urothelium and bladder carcinoma. *Cancer Res.* 58: 5662-5666.
- Zhang, S., et al. 1998. Selection of tumor antigens as targets for immune attack using immunohistochemistry: protein antigens. *Clin. Cancer Res.* 4: 2669-2676.
- Lagow, E., et al. 1999. Mammalian reproductive tract mucins. *Hum. Reprod. Update* 5: 280-292.

CHROMOSOMAL LOCATION

Genetic locus: MUC7 (human) mapping to 4q13.3.

SOURCE

Mucin 7 (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Mucin 7 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-16918 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Mucin 7 (V-20) is recommended for detection of Mucin 7 of human 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 7 siRNA (h): sc-43167, Mucin 7 shRNA Plasmid (h): sc-43167-SH and Mucin 7 shRNA (h) Lentiviral Particles: sc-43167-V.

Molecular Weight of Mucin 7: 39 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

- Liegl, B., et al. 2007. Mammary and extramammary Paget's disease: an immunohistochemical study of 83 cases. *Histopathology* 50: 439-447.
- Habte, H.H., et al. 2010. Anti-HIV-1 activity of salivary MUC5B and MUC7 mucins from HIV patients with different CD4 counts. *Virology* 50: 269.

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.


 MONOS
 Satisfaction
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Try **Mucin 7 (1C10): sc-517138**, our highly recommended monoclonal alternative to Mucin 7 (V-20).