

# Mucin 7 (H-150): sc-50433

## 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/sublingula 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 $\alpha$  and, to a lesser extent, by RAR $\gamma$ . 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 (H-150) is a rabbit polyclonal antibody raised against amino acids 1-75 mapping at the N-terminus of Mucin 7 of human origin.

## PRODUCT

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

## APPLICATIONS

Mucin 7 (H-150) is recommended for detection of Mucin 7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 7 siRNA (h): sc-43167, Mucin 7 shRNA Plasmid (h): sc-43167-SH and Mucin 7 shRNA (h) Lentiviral Particles: sc-43167-V.

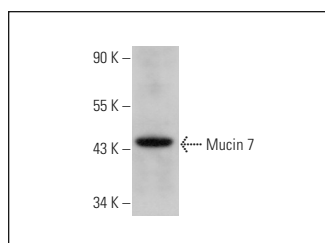
Molecular Weight of Mucin 7: 39 kDa.

Positive Controls: SHP-77 whole cell lysate: sc-364258.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



Mucin 7 (H-150): sc-50433. Western blot analysis of Mucin 7 expression in SHP-77 whole cell lysate.

## 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.



Try **Mucin 7 (1C10): sc-517138**, our highly recommended monoclonal alternative to Mucin 7 (H-150).