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# Mucin 6 siRNA (h): sc-43166

## BACKGROUND

Mucin 6 (also designated MUC 6 and gastric mucin) is a large glycoprotein that plays a major role in the protection of the gastrointestinal tract. 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 6 expression is highest in the stomach and gall bladder, with lower expression in the terminal ileum and right colon. In gastric cancer, Mucin 6 has an altered expression. In normal stomach, Mucin 6 apomucin is associated with Lewis type 2; Mucin 6 is also expressed in gastric metaplasia, duodenum and pancreas. Mucin 6 is a secretory mucin, located in the deeper mucosal folds of human gall bladder, and its expression is altered with increasing degrees of inflammation. Mucin 6 mRNA is expressed transiently in the nephrogenic zone of the kidney in the early mid-trimester of development, and Mucin 6 glycoprotein is expressed in the epithelium of ureteric buds and collecting ducts, but absent from adult kidney. Proliferating bile ductular cells express Mucin 6 apomucin in diseased liver, especially in chronic viral hepatitis with active necroinflammation, suggesting that this secreted mucin acts as a cytoprotective agent and represents a phenotype of reactive biliary epithelium in chronic viral hepatitis.

## REFERENCES

1. Toribara, N.W., et al. 1993. Human gastric mucin. Identification of a unique species by expression cloning. *J. Biol. Chem.* 268: 5879-5885.
2. Sasaki, M., et al. 1998. Increased MUC6 apomucin expression is a characteristic of reactive biliary epithelium in chronic viral hepatitis. *J. Pathol.* 185: 191-198.

## CHROMOSOMAL LOCATION

Genetic locus: MUC6 (human) mapping to 11p15.5.

## PRODUCT

Mucin 6 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Mucin 6 shRNA Plasmid (h): sc-43166-SH and Mucin 6 shRNA (h) Lentiviral Particles: sc-43166-V as alternate gene silencing products.

For independent verification of Mucin 6 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-43166A, sc-43166B and sc-43166C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Mucin 6 siRNA (h) is recommended for the inhibition of Mucin 6 expression in human cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

Mucin 6 (CLH5): sc-33668 is recommended as a control antibody for monitoring of Mucin 6 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Mucin 6 gene expression knockdown using RT-PCR Primer: Mucin 6 (h)-PR: sc-43166-PR (20  $\mu$ l, 593 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Sasaki, M., et al. 2013. Overexpression of enhancer of zeste homolog 2 and MUC1 may be related to malignant behaviour in intraductal papillary neoplasm of the bile duct. *Histopathology* 62: 446-457.

## RESEARCH USE

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

## PROTOCOLS

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