

Mucin 15 siRNA (h): sc-45694

BACKGROUND

The Mucins are a family of highly glycosylated, secreted proteins with a basic structure consisting of a variable number of tandem repeats (VNTRs). Membrane-associated and secretory mucins are high molecular weight glycoproteins of the glycocalyx (polysaccharide biofilm) that protects mucosal epithelium from particulate matter and microorganisms. Epithelial mucins are large, secreted and cell surface glycoproteins crucial for adhesion modulation, signaling and epithelial cell protection. The number of repeats is highly polymorphic and varies among different alleles. The mucin family consists of Mucins 1-4, Mucin 5 (AC and B), Mucins 6-8, Mucins 11-13 and Mucins 15-17. Mucin 15 is involved in cell adhesion to the extracellular matrix. It is primarily expressed in prostate, testis, lung, spleen, thymus, ovary, small intestine, colon, bone marrow, lymph node, lung and peripheral blood leukocytes. Mucin 15 is a highly glycosylated protein.

REFERENCES

1. Lan, M.S., et al. 1990. Cloning and sequencing of a human pancreatic tumor mucin cDNA. *J. Biol. Chem.* 265: 15294-15299.
2. Moniaux, N., et al. 2001. Structural organization and classification of the human mucin genes. *Front. Biosci.* 6: D1192-D1206.
3. Leikauf, G.D., et al. 2002. Mucin apoprotein expression in COPD. *Chest* 121: 166S-182S.
4. Pallesen, L.T., et al. 2002. Isolation and characterization of MUC15, a novel cell membrane-associated mucin. *Eur. J. Biochem.* 269: 2755-2763.
5. Byrd, J.C., et al. 2004. Mucins and mucin binding proteins in colorectal cancer. *Cancer Metastasis Rev.* 23: 77-99.

CHROMOSOMAL LOCATION

Genetic locus: MUC15 (human) mapping to 11p14.2.

PRODUCT

Mucin 15 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Mucin 15 shRNA Plasmid (h): sc-45694-SH and Mucin 15 shRNA (h) Lentiviral Particles: sc-45694-V as alternate gene silencing products.

For independent verification of Mucin 15 (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-45694A, sc-45694B and sc-45694C.

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

APPLICATIONS

Mucin 15 siRNA (h) is recommended for the inhibition of Mucin 15 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 μ M in 66 μ 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 15 (H-5): sc-365746 is recommended as a control antibody for monitoring of Mucin 15 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 κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Mucin 15 gene expression knockdown using RT-PCR Primer: Mucin 15 (h)-PR: sc-45694-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cheng, M., et al. 2020. MUC15 promotes growth and invasion of glioma cells by activating Raf/MEK/ERK pathway. *Clin. Exp. Pharmacol. Physiol.* 47: 1041-1048.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.