SANTA CRUZ BIOTECHNOLOGY, INC.

Mucin 13 siRNA (m): sc-45691

BACKGROUND

Mucins are epithelial glycoproteins with a high content of clustered oligosaccharides that are O-glycoside linked to tandem repeat peptides rich in threonine, serine and proline. Mucin 13 (MUC13), also designated down-regulated in colon cancer 1 (DRCC1), is an epithelial and hemopoietic type I membrane protein that undergoes secretion and influences gastrointestinal mucosa levels. It is most abundant in epithelial tissues of the gastrointestinal and respiratory tracts, such as large intestine and trachea, followed by kidney, small intestine, appendix and stomach. Mucin 13 is a good differentiation marker for gastrointestinal mucosa and may also indicate certain gastric tumors. It localizes to the apical membrane of both columnar and goblet cells in the gastrointestinal tract, and within goblet cell thecae. Mucin 13 is a cleaved protein, and the β subunit, containing the cytoplasmic tail, can homodimerize.

REFERENCES

1. Williams, S.J., et al. 2001. Muc13, a novel human cell surface mucin expressed by epithelial and hemopoietic cells. J. Biol. Chem. 276: 18327-18336.
2. Corrales, R.M., et al. 2003. Normal human conjunctival epithelium expresses MUC13, MUC15, MUC16 and MUC17 mucin genes. Arch. Soc. Esp. Oftalmol. 78: 375-381.
3. Carraway, K.L., et al. 2003. Cell signaling through membrane mucins. Bioessays 25: 66-71.
4. Packer, L.M., et al. 2004. Expression of the cell surface mucin gene family in adenocarcinomas. Int. J. Oncol. 25: 1119-1126.
5. Byrd, J.C., et al. 2004. Mucins and mucin binding proteins in colorectal cancer. Cancer Metastasis Rev. 23: 77-99.
6. Hollingsworth, M.A., et al. 2004. Mucins in cancer: protection and control of the cell surface. Nat. Rev. Cancer 4: 45-60.
7. Shimamura, T., et al. 2005. Overexpression of MUC13 is associated with intestinal-type gastric cancer. Cancer Sci. 96: 265-273.

CHROMOSOMAL LOCATION

Genetic locus: Muc13 (mouse) mapping to 16 B3.

PRODUCT

Mucin 13 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Mucin 13 shRNA Plasmid (m): sc-45691-SH and Mucin 13 shRNA (m) Lentiviral Particles: sc-45691-V as alternate gene silencing products.

For independent verification of Mucin 13 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45691A, sc-45691B and sc-45691C.

RESEARCH USE

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Mucin 13 shRNA Plasmid (m) is recommended for the inhibition of Mucin 13 expression in mouse 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 µM in 66 µl. 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 13 (G-10): sc-390115 is recommended as a control antibody for monitoring of Mucin 13 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 13 gene expression knockdown using RT-PCR Primer: Mucin 13 (m)-PR: sc-45691-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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