SANTA CRUZ BIOTECHNOLOGY, INC.

GCDFP-15 siRNA (h): sc-40631

BACKGROUND

Gross cystic disease fluid protein 15 (GCDFP-15) is a major protein component of benign breast gross cysts. It is a known marker of breast cancer, as it is found in approximately 50% of all breast cancer specimens. GCDFP-15, also known as PIP, for prolactin inducible protein, is a prolactin and androgen controlled protein. It is detectable in saliva, tears, sweat, seminal plasma, submucosal glands of the lung and amniotic fluid. PIP, the gene encoding GCDFP-15 is expressed in exocrine glands and, in pathologic conditions, in breast cysts and breast cancers exhibiting apocrine features. The PIP gene maps to the long arm of chromosome 7, a region frequently altered in mammary tumors.

REFERENCES

1. Haagensen, D.E., Jr., et al. 1979. Breast gross cystic disease fluid analysis. I. Isolation and radioimmunoassay for a major component protein. J. Natl. Cancer Inst. 62: 239-247.
2. Haagensen, D.E., Jr., et al. 1980. Analysis of amniotic fluid, maternal plasma, and cord blood for a human breast gross cystic disease fluid protein. Am. J. Obstet. Gynecol. 138: 25-32.
3. Mazoujian, G., et al. 1983. Immunohistochemistry of a gross cystic disease fluid protein (GCDFP-15) of the breast. A marker of apocrine epithelium and breast carcinomas with apocrine features. Am. J. Pathol. 110: 105-112.
4. Loos, S., et al. 1999. Regulation of GCDFP-15 expression in human mammary cancer cells. Int. J. Mol. Med. 4: 135-140.
5. Caputo, E., et al. 1999. Biosynthesis and immunobiochemical characterization of gp17/GCDFP-15. A glycoprotein from seminal vesicles and from breast tumors, in HeLa cells and in *Pichia pastoris* yeast. Eur. J. Biochem. 265: 664-670.
6. Satoh, F., et al. 2000. Immunohistochemical analysis of GCDFP-15 and GCDFP-24 in mammary and non-mammary tissue. Breast Cancer 7: 49-55.
7. Lee, B., et al. 2002. Identification of mouse submaxillary gland protein in mouse saliva and its binding to mouse oral bacteria. Arch. Oral Biol. 47: 327-332.
8. Autiero, M., et al. 2002. Intragenic amplification and formation of extrachromosomal small circular DNA molecules from the PIP gene on chromosome 7 in primary breast carcinomas. Int. J. Cancer 99: 370-377.

CHROMOSOMAL LOCATION

Genetic locus: PIP (human) mapping to 7q34.

PRODUCT

GCDFP-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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GCDFP-15 shRNA Plasmid (h): sc-40631-SH and GCDFP-15 shRNA (h) Lentiviral Particles: sc-40631-V as alternate gene silencing products.

For independent verification of GCDFP-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-40631A, sc-40631B and sc-40631C.

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

GCDFP-15 siRNA (h) is recommended for the inhibition of GCDFP-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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GCDFP-15 gene expression knockdown using RT-PCR Primer: GCDFP-15 (h)-PR: sc-40631-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.