

GCDFP-15 siRNA (m): sc-44723

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 called PIP, for prolactin inducible protein, is a prolactin and androgen controlled protein. GCDFP-15/PIP is detectable in saliva, tears, sweat, seminal plasma, submucosal glands of the lung and amniotic fluid. The PIP gene 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

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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 (mouse) mapping to 6 B2.1.

PRODUCT

GCDFP-15 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GCDFP-15 shRNA Plasmid (m): sc-44723-SH and GCDFP-15 shRNA (m) Lentiviral Particles: sc-44723-V as alternate gene silencing products.

For independent verification of GCDFP-15 (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-44723A, sc-44723B and sc-44723C.

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

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

GCDFP-15 (C-12): sc-377171 is recommended as a control antibody for monitoring of GCDFP-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 MarkerTM 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 GCDFP-15 gene expression knockdown using RT-PCR Primer: GCDFP-15 (m)-PR: sc-44723-PR (20 μ l). 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.