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SANTA CRUZ BIOTECHNOLOGY, INC.

pancpin siRNA (m): sc-152003

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pancpin, also known as myoepithelium-derived serine protease inhibitor (MEPI), protease inhibitor 14 (PI14), ZG-46p or serpin peptidase inhibitor clade I member 2 (serpin I2), is a protein belonging to the serpin family of serine cysteine protease inhibitors. Members of this superfamily play important roles in angiogenesis, inflammation, blood coagulation and apoptosis. Pancpin is expressed in pancreas and adipose tissues and localizes to the Golgi and zymogen granules. The down regulation of pancpin may be involved in the progression or development of pancreatic cancer. Overexpression of pancpin plays a significant role in inhibiting tumor formation. A mutation in the gene encoding pancpin can result in progressive apoptosis of pancreatic acinar cells. This can lead to pancreatic insufficiency; a disease characterized by an inability to absorb and digest nutrients from the diet.

REFERENCES

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2. Ozaki, K., et al. 1998. Isolation and characterization of a novel human pancreas-specific gene, pancpin, that is down-regulated in pancreatic cancer cells. Genes Chromosomes Cancer 22: 179-185.
3. Xiao, G., et al. 1999. Suppression of breast cancer growth and metastasis by a serpin myoepithelium-derived serine proteinase inhibitor expressed in the mammary myoepithelial cells. Proc. Natl. Acad. Sci. USA 96: 3700-3705.
4. Chang, W.S., et al. 2000. Tissue-specific cancer-related serpin gene cluster at human chromosome band 3q26. Genes Chromosomes Cancer 29: 240-255.
5. Gudjonsson, T., et al. 2002. Normal and tumor-derived myoepithelial cells differ in their ability to interact with luminal breast epithelial cells for polarity and basement membrane deposition. J. Cell Sci. 115: 39-50.
6. Johnson-Pais, T.L., et al. 2003. Determination of a minimal region of loss of heterozygosity on chromosome 18q21.33 in osteosarcoma. Int. J. Cancer 105: 285-288.
7. Loftus, S.K., et al. 2006. Acinar cell apoptosis in Serpini2-deficient mice models pancreatic insufficiency. PLoS Genet. 1: e38.
8. Dawelbait, G., et al. 2007. Structural templates predict novel protein interactions and targets from pancreas tumour gene expression data. Bioinformatics 23: i115-i124.
9. Ishigami, S., et al. 2007. Identification of a novel targeting sequence for regulated secretion in the serine protease inhibitor neuroserpin. Biochem. J. 402: 25-34.

CHROMOSOMAL LOCATION

Genetic locus: Serpini2 (mouse) mapping to 3 E3.

PROTOCOLS

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

PRODUCT

pancpin 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 pancpin shRNA Plasmid (m): sc-152003-SH and pancpin shRNA (m) Lentiviral Particles: sc-152003-V as alternate gene silencing products.

For independent verification of pancpin (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-152003A, sc-152003B and sc-152003C.

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

pancpin siRNA (m) is recommended for the inhibition of pancpin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor pancpin gene expression knockdown using RT-PCR Primer: pancpin (m)-PR: sc-152003-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.