SANTA CRUZ BIOTECHNOLOGY, INC.

Pancreasin siRNA (m): sc-72313

BACKGROUND

Serine proteases are important in many biological processes such as receptor activation, complement activation, coagulation and tissue remodeling. Pancreasin, also known as marapsin (MPN), channel activating protease 2-like protein (CAPH2) or protease, serine 27, is an N-glycosylated, secreted pancreatic tryptic serine peptidase and proteinase. Pancreasin is responsible for cleaving peptides after an arginine residue and may play a role in regulating cell growth and migration. It can be inhibited by benzamidine and Leupeptin. Pancreasin is closely related to prostatin, Tryptase-γ, Testisin and Tryptase-ε. These proteins share approximately 40% amino acid identity with Tryptase-α and Tryptase-β. They contain Cysteine residues that may form a disulfide link bewteen the propeptide and catalytic chain, a tryptic propeptide cleavage site and a C-terminal membrane anchor. Tryptase-ε and the human Pancreasin protein lack the characteristic C-terminal membrane anchor.

REFERENCES

1. Bhagwandin, V.J., et al. 2003. Structure and activity of human pancreasin, a novel tryptic serine peptidase expressed primarily by the pancreas. J. Biol. Chem. 278: 3363-3371.
2. Tong, Z., et al. 2004. Prostasin, a membrane-anchored serine peptidase, regulates sodium currents in JME/CF15 cells, a cystic fibrosis airway epithelial cell line. Am. J. Physiol. Lung Cell. Mol. Physiol. 287: L928-L935.
3. Verghese, G.M., et al. 2004. Mouse prostasin gene structure, promoter analysis, and restricted expression in lung and kidney. Am. J. Respir. Cell Mol. Biol. 30: 519-529.
4. Yasuda, S., et al. 2005. Urokinase-type plasminogen activator is a preferred substrate of the human epithelium serine protease tryptase ε/PRSS22. Blood 105: 3893-3901.
5. Wong, G.W. and Stevens, R.L. 2005. Identification of a subgroup of glycosylphosphatidylinositol-anchored tryptases. Biochem. Biophys. Res. Commun. 336: 579-584.
6. Cal, S., et al. 2006. Identification and characterization of human polyserase-3, a novel protein with tandem serine-protease domains in the same polypeptide chain. BMC Biochem. 7: 9.

CHROMOSOMAL LOCATION

Genetic locus: Prss27 (mouse) mapping to 17 A3.3.

PRODUCT

Pancreasin 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 Pancreasin shRNA Plasmid (m): sc-72313-SH and Pancreasin shRNA (m) Lentiviral Particles: sc-72313-V as alternate gene silencing products.

For independent verification of Pancreasin (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-72313A, sc-72313B and sc-72313C.

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

Pancreasin siRNA (m) is recommended for the inhibition of Pancreasin 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 Pancreasin gene expression knockdown using RT-PCR Primer: Pancreasin (m)-PR: sc-72313-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.