SANTA CRUZ BIOTECHNOLOGY, INC.

Pancreatic Polypeptide siRNA (m): sc-62750

BACKGROUND

Pancreatic Polypeptide (PP) and Pancreatic Icosapeptide (PI) are both deduced from the pancreatic prohormone precursor. The two peptide sequences are seperated by a Gly-Lys-Arg cleavage and amidation site. The Pancreatic Polypeptide lies on the N-terminal side of this cleavage site while the Pancreatic Icosapeptide lies on the C-terminal side. The prohormone precursor is produced by the endocrine F-cells of the pancreatic islets and, in response to food intake, the Pancreatic Polypeptide is released into the circulation. The Pancreatic Polypeptide is a member of the neuropeptide Y (NPY) family of hormones that bind to Y receptors. In particular, it binds to Y4 receptors and functions as an anorexigenic hormone. Subjects with Prader-Willi syndrome have a decreased Pancreatic Polypeptide response to a meal. Administration of Pancreatic Polypeptide decreases food intake and may serve as a therapeutic option for treatment of obesity.

REFERENCES

1. Boel, E., et al. 1984. A cDNA encoding a small common precursor for human pancreatic polypeptide and pancreatic icosapeptide. EMBO J. 3: 909-912.
2. Schwartz, T.W., et al. 1984. Human pancreatic icosapeptide: isolation, sequence, and immunocytochemical localization of the COOH-terminal fragment of the pancreatic polypeptide precursor. Proc. Natl. Acad. Sci. USA 81: 708-712.
3. Leiter, A.B., et al. 1985. Exons of the human pancreatic polypeptide gene define functional domains of the precursor. J. Biol. Chem. 260: 13013-13017.
4. Takeuchi, T., et al. 1986. Genes encoding pancreatic polypeptide and neuropeptide Y are on human chromosomes 17 and 7. J. Clin. Invest. 77: 1038-1041.
5. Koska, J., et al. 2004. Pancreatic polypeptide is involved in the regulation of body weight in pima Indian male subjects. Diabetes 53: 3091-3096.
6. Schmidt, P.T., et al. 2005. A role for pancreatic polypeptide in the regulation of gastric emptying and short-term metabolic control. J. Clin. Endocrinol. Metab. 90: 5241-5246.

CHROMOSOMAL LOCATION

Genetic locus: Ppy (mouse) mapping to 11 D.

PRODUCT

Pancreatic Polypeptide 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 Pancreatic Polypeptide shRNA Plasmid (m): sc-62750-SH and Pancreatic Polypeptide shRNA (m) Lentiviral Particles: sc-62750-V as alternate gene silencing products.

For independent verification of Pancreatic Polypeptide (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-62750A, sc-62750B and sc-62750C.

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

Pancreatic Polypeptide siRNA (m) is recommended for the inhibition of Pancreatic Polypeptide 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.

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.