SANTA CRUZ BIOTECHNOLOGY, INC.

PLRP1 siRNA (h): sc-76172

BACKGROUND

Pancreatic lipase plays a major role in dietary lipid degradation by hydrolyzing triglycerides into diglycerides and subsequently into monoglycerides and free fatty acids. Pancreatic lipase-related protein 1 (PLRP1), also known as PNLIPRP1, is a 467 amino acid protein belonging to the AB hydrolase superfamily and the lipase family. PLRP1 has a 68% amino acid identity with pancreatic lipase and 18-34% identity with gastric lipase, hepatic lipase and LPL. As a secretary protein, PLRP1 is expressed solely in the pancreas. Although PLRP1 is suggested to play a role in lipid degradation, it may have a different substrate and cofactor requirements than pancreatic lipase. The gene encoding PLRP1 maps to chromosome 10q25.3. Three isoforms of PLRP1 exist as a result of alternative splicing events.

REFERENCES

1. Giller, T., et al. 1992. Two novel human pancreatic lipase related proteins, hPLRP1 and hPLRP2. Differences in colipase dependence and in lipase activity. J. Biol. Chem. 267: 16509-16516.
2. De Caro, J., et al. 1998. Pancreatic lipase-related protein 1 (PLRP1) is present in the pancreatic juice of several species. Biochim. Biophys. Acta 1387: 331-341.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604422. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Remington, S.G. and Nelson, J.D. 2002. mRNA encoding a new lipolytic enzyme expressed in rabbit lacrimal glands. Invest. Ophthalmol. Vis. Sci. 43: 3617-3624.
5. Reboul, E., et al. 2006. Pancreatic lipase and pancreatic lipase-related protein 2, but not pancreatic lipase-related protein 1, hydrolyze retinyl palmitate in physiological conditions. Biochim. Biophys. Acta 1761: 4-10.
6. Elinson, N., et al. 2006. Leptin directly regulates exocrine pancreas lipase and two related proteins in the rat. Br. J. Nutr. 96: 691-696.

CHROMOSOMAL LOCATION

Genetic locus: PNLIPRP1 (human) mapping to 10q25.3.

PRODUCT

PLRP1 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 PLRP1 shRNA Plasmid (h): sc-76172-SH and PLRP1 shRNA (h) Lentiviral Particles: sc-76172-V as alternate gene silencing products.

For independent verification of PLRP1 (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-76172A, sc-76172B and sc-76172C.

PROTOCOLS

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

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

PLRP1 siRNA (h) is recommended for the inhibition of PLRP1 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 PLRP1 gene expression knockdown using RT-PCR Primer: PLRP1 (h)-PR: sc-76172-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.