SANTA CRUZ BIOTECHNOLOGY, INC.

PLB siRNA (h): sc-95008

BACKGROUND

A variety of lipases, including acid lipase in lingual gland or stomach and pancreatic lipase, hydrolyze triacylglycerol to produce monoacylglycerols and free fatty acids in the gastrointestinal tract. PLB (phospholipase B), also known as PLB1 (phospholipase B1) or PLB/LIP (phospholipase B/lipase), is a 1,458 amino acid single-pass type I membrane protein that belongs to the GDSL lipolytic enzyme family and the phospholipase B1 subfamily. PLB consists of an NH_2-signal peptide, four tandem repeats, with the second repeat containing the catalytic domain, and a hydrophobic domain near the C-terminus, which serves as a membrane anchor. Encoded by a gene that maps to human chromosome 2p23.2, PLB localizes to brush border membranes and is highly expressed in ileum, and to a lesser extent in esophagus and testis. PLB exhibits broad lipolytic abilities and functions as an intestinal Ca^{2+}-independent phospholipase.

REFERENCES

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2. Gassama-Diagne, A., et al. 1992. Substrate specificity of phospholipase B from guinea pig intestine. A glycerol ester lipase with broad specificity. J. Biol. Chem. 267: 13418-13424.
3. Tojo, H., et al. 1998. Purification and characterization of a catalytic domain of rat intestinal phospholipase B/lipase associated with brush border membranes. J. Biol. Chem. 273: 2214-2221.
4. Takemori, H., et al. 1998. Identification of functional domains of rat intestinal phospholipase B/lipase. Its cDNA cloning, expression, and tissue distribution. J. Biol. Chem. 273: 2222-2231.
5. Lu, T., et al. 2001. Identification of essential residues for catalysis of rat intestinal phospholipase B/lipase. Biochemistry 40: 7133-7139.
6. Maury, E., et al. 2002. Human epidermis is a novel site of phospholipase B expression. Biochem. Biophys. Res. Commun. 295: 362-369.
7. Nauze, M., et al. 2002. Guinea pig phospholipase B, identification of the catalytic serine and the proregion involved in its processing and enzymatic activity. J. Biol. Chem. 277: 44093-44099.
8. Morgan, C.P., et al. 2004. Identification of phospholipase B from *Dictyostelium discoideum* reveals a new lipase family present in mammals, flies and nematodes, but not yeast. Biochem. J. 382: 441-449.

CHROMOSOMAL LOCATION

Genetic locus: PLB1 (human) mapping to 2p23.2.

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.

PRODUCT

PLB 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 PLB shRNA Plasmid (h): sc-95008-SH and PLB shRNA (h) Lentiviral Particles: sc-95008-V as alternate gene silencing products.

For independent verification of PLB (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-95008A, sc-95008B and sc-95008C.

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

PLB siRNA (h) is recommended for the inhibition of PLB 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 PLB gene expression knockdown using RT-PCR Primer: PLB (h)-PR: sc-95008-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.