



Gastric Lipase siRNA (m): sc-60674

BACKGROUND

The lipase gene family belongs to one of the most robust genetic superfamilies found in living organisms, which includes esterases and thioesterases. The AB hydrolase subfamily plays a crucial role in the metabolism of lipids. Members of this family include Hepatic Lipase (HL), Endothelial Lipase (EL), Lipoprotein Lipase (LPL), Pancreatic Lipase (PL), Gastric Lipase (GL), LCAT and Lysosomal Acid Lipase (LAL). Gastric Lipase is a 379-amino acid protein that is highly homologous to LAL and is involved in the digestion of dietary triglycerides in the gastrointestinal tract, especially in individuals with pancreatic lipase deficiencies. Gastric Lipase is secreted by the fundic mucosa of the stomach and, under acidic pH conditions, it hydrolyzes the ester bonds of triglycerides.

REFERENCES

- Shinchi, H., et al. 2004. Value of magnetic resonance cholangiopancreatography with secretin stimulation in the evaluation of pancreatic exocrine function after pancreaticogastrostomy. *J. Hepatobiliary Pancreat. Surg.* 11: 50-55.
- Mu, H. and Porsgaard, T. 2005. The metabolism of structured triacylglycerols. *Prog. Lipid Res.* 44: 430-448.
- Mattes, R.D. 2005. Fat taste and lipid metabolism in humans. *Physiol. Behav.* 86: 691-697.
- Jain, D., et al. 2005. Composite glandular and endocrine tumors of the stomach with pancreatic acinar differentiation. *Am. J. Surg. Pathol.* 29: 1524-1529.
- Carrière, F. and Laugier, R. 2005. Gastrointestinal lipolysis levels and potential use of Gastric Lipase in insufficiency. *Clin. Gastroenterol. Hepatol.* 3: 715-716.
- Osaki, N., et al. 2005. Metabolites of dietary triacylglycerol and diacylglycerol during the digestion process in rats. *Lipids* 40: 281-286.
- Case, C.L., et al. 2005. Enzyme content and acid stability of enteric-coated pancreatic enzyme products *in vitro*. *Pancreas* 30: 180-183.
- Littlewood, J.M., et al. 2006. Diagnosis and treatment of intestinal malabsorption in cystic fibrosis. *Pediatr. Pulmonol.* 41: 35-49.

CHROMOSOMAL LOCATION

Genetic locus: *Lipf* (mouse) mapping to 19 C1.

PRODUCT

Gastric Lipase 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Gastric Lipase shRNA Plasmid (m): sc-60674-SH and Gastric Lipase shRNA (m) Lentiviral Particles: sc-60674-V as alternate gene silencing products.

For independent verification of Gastric Lipase (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-60674A, sc-60674B and sc-60674C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Gastric Lipase siRNA (m) is recommended for the inhibition of Gastric Lipase 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

Gastric Lipase (H-1): sc-390750 is recommended as a control antibody for monitoring of Gastric Lipase gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Gastric Lipase gene expression knockdown using RT-PCR Primer: Gastric Lipase (m)-PR: sc-60674-PR (20 μ l). 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.