SANTA CRUZ BIOTECHNOLOGY, INC.

Endothelial Lipase siRNA (h): sc-60581

BACKGROUND

The lipase gene family belongs to one of the most robust genetic superfamilies found in living organisms, which includes esterases and thioesterases. Members of the AB hydrolase subfamily include Hepatic Lipase (HL), Endothelial Lipase (EDL or EL), Lipoprotein Lipase (LPL), Pancreatic Lipase (PL), Gastric Lipase (GL) and LCAT. These family members play a crucial role in the metabolism of lipids. Defects in LPL may cause chylomicronemia syndrome or a form of Lipoprotein Lipase deficiency characterized by hypertriglyceridemia. Endothelial Lipase, which also is known as endothelial cell-derived lipase, has both triglyceride and phospholipase activity. This protein, which is synthesized in endothelial cells, can bind heparin. It is expressed primarily in placenta, liver, thyroid, kidney, lung, testis and ovary tissue.

REFERENCES

1. Jaye, M., et al. 1999. A novel endothelial-derived lipase that modulates HDL metabolism. Nat. Genet. 21: 424-428.
2. McCoy, M.G., et al. 2002. Characterization of the lipolytic activity of Endothelial Lipase. J. Lipid Res. 43: 921-929.
3. Kojma, Y., et al. 2004. Endothelial Lipase modulates monocyte adhesion to the vessel wall. A potential role in inflammation. J. Biol. Chem. 279: 54032-54038.
4. Gauster, M., et al. 2005. Endothelial Lipase is inactivated upon cleavage by the members of the proprotein convertase family. J. Lipid Res. 46: 977-987.
5. Gauster, M., et al. 2005. Endothelial Lipase releases saturated and unsaturated fatty acids of high density lipoprotein phosphatidylcholine. J. Lipid Res. 46: 1517-1525.
6. Kratky, D., et al. 2005. Endothelial Lipase provides an alternative pathway for FFA uptake in Lipoprotein Lipase-deficient mouse adipose tissue. J. Clin. Invest. 115: 161-167.
7. Liu, T., et al. 2005. Human plasma N-glycoproteome analysis by immunoaffinity subtraction, hydrazide chemistry, and mass spectrometry. J. Proteome Res. 4: 2070-2080.

CHROMOSOMAL LOCATION

Genetic locus: LIPG (human) mapping to 18q21.1.

PRODUCT

Endothelial Lipase 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 Endothelial Lipase shRNA Plasmid (h): sc-60581-SH and Endothelial Lipase shRNA (h) Lentiviral Particles: sc-60581-V as alternate gene silencing products.

For independent verification of Endothelial Lipase (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-60581A, sc-60581B and sc-60581C.

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

Endothelial Lipase siRNA (h) is recommended for the inhibition of Endothelial Lipase 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.

GENE EXPRESSION MONITORING

Endothelial Lipase (4A9): sc-517036 is recommended as a control antibody for monitoring of Endothelial 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Endothelial Lipase gene expression knockdown using RT-PCR Primer: Endothelial Lipase (h)-PR: sc-60581-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.