

GPIHBP1 siRNA (h): sc-77539

BACKGROUND

Chylomicrons are large lipoprotein particles that consist of triglycerides, phospholipids, cholesterol and proteins. Chylomicrons transport dietary lipids from the intestines to other locations in the body. The triglycerides in chylomicrons are hydrolyzed by lipoprotein lipase (LPL) along the luminal surface of capillaries, mainly in heart, skeletal muscle and adipose tissue. GPIHBP1 (glycosylphosphatidylinositol anchored high density lipoprotein binding protein 1) is a capillary endothelial cell protein that provides a platform for LPL-mediated processing of chylomicrons. Consisting of 184 amino acids, GPIHBP1 is a single-pass membrane protein that may be regulated by dietary factors and by PPAR γ . Mutations in the gene encoding GPIHBP1 are linked to chylomicronemia syndrome, a rare genetic disorder caused by LPL deficiency and is characterized by enlarged liver and spleen, inflammation of the pancreas, fatty deposits under the skin and possibly deposits in the retina of the eye.

REFERENCES

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2. Veniant, M.M., et al. 2008. Lipoprotein size and susceptibility to atherosclerosis—insights from genetically modified mouse models. *Curr. Drug Targets* 9: 174-189.
3. Gin, P., et al. 2008. The acidic domain of GPIHBP1 is important for the binding of lipoprotein lipase and chylomicrons. *J. Biol. Chem.* 283: 29554-29562.
4. Beigneux, A.P., et al. 2008. Glycosylation of Asn-76 in mouse GPIHBP1 is critical for its appearance on the cell surface and the binding of chylomicrons and lipoprotein lipase. *J. Lipid Res.* 49: 1312-1321.
5. Davies, B.S., et al. 2008. The expression of GPIHBP1, an endothelial cell binding site for lipoprotein lipase and chylomicrons, is induced by peroxisome proliferator-activated receptor- γ . *Mol. Endocrinol.* 22: 2496-2504.
6. Beigneux, A.P., et al. 2009. GPIHBP1 and lipolysis: an update. *Curr. Opin. Lipidol.* 20: 211-216.
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CHROMOSOMAL LOCATION

Genetic locus: GPIHBP1 (human) mapping to 8q24.3.

PRODUCT

GPIHBP1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GPIHBP1 shRNA Plasmid (h): sc-77539-SH and GPIHBP1 shRNA (h) Lentiviral Particles: sc-77539-V as alternate gene silencing products.

For independent verification of GPIHBP1 (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-77539A, sc-77539B and sc-77539C.

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

GPIHBP1 siRNA (h) is recommended for the inhibition of GPIHBP1 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 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

GPIHBP1 (F-4): sc-376598 is recommended as a control antibody for monitoring of GPIHBP1 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 GPIHBP1 gene expression knockdown using RT-PCR Primer: GPIHBP1 (h)-PR: sc-77539-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.