

## PLTP siRNA (h): sc-106813

### BACKGROUND

Phospholipid transfer protein (PLTP) is involved in reverse cholesterol transport, a key means of removal of excess cholesterol from cellular membranes for transport to the liver and subsequent secretion into the bile. PLTP remodels HDL by promoting net transfer and exchange of phospholipids among HDL subclasses and other lipoproteins. PLTP is secreted and distributed widely in various tissues including placenta, kidney, liver and brain. At least two transcript variants encoding different isoforms have been found for this gene. Protein secretion of active PLTP is observable in neurons, microglia, and astrocytes in culture. PLTP is present in neurons, astrocytes, microglia, and oligodendroglia.

### REFERENCES

1. Karkkainen, M., et al. 2002. Isolation and partial characterization of the inactive and active forms of human plasma phospholipid transfer protein (PLTP). *J. Biol. Chem.* 277: 15413-15418.
2. Lee, M., et al. 2003. Degradation of phospholipid transfer protein (PLTP) and PLTP-generated pre- $\beta$ -high density lipoprotein by mast cell chymase impairs high affinity efflux of cholesterol from macrophage foam cells. *J. Biol. Chem.* 278: 13539-13545.
3. Vuletic, S., et al. 2003. Widespread distribution of PLTP in human CNS: evidence for PLTP synthesis by glia and neurons, and increased levels in Alzheimer's disease. *J. Lipid Res.* 44: 1113-1123.
4. Siggins, S., et al. 2003. PLTP secreted by Hep G2 cells resembles the high-activity PLTP form in human plasma. *J. Lipid Res.* 44: 1698-1704.
5. Yan, D., et al. 2004. PLTP deficiency improves the anti-inflammatory properties of HDL and reduces the ability of LDL to induce monocyte chemotactic activity. *J. Lipid Res.* 45: 1852-1858.
6. Desrumaux, C., et al. 2005. Phospholipid transfer protein (PLTP) deficiency reduces brain vitamin E content and increases anxiety in mice. *FASEB J.* 19: 296-297.

### CHROMOSOMAL LOCATION

Genetic locus: PLTP (human) mapping to 20q13.12.

### PRODUCT

PLTP 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PLTP shRNA Plasmid (h): sc-106813-SH and PLTP shRNA (h) Lentiviral Particles: sc-106813-V as alternate gene silencing products.

For independent verification of PLTP (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-106813A, sc-106813B and sc-106813C.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

PLTP siRNA (h) is recommended for the inhibition of PLTP 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  $\mu$ M in 66  $\mu$ 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

PLTP (A-12): sc-271596 is recommended as a control antibody for monitoring of PLTP 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 PLTP gene expression knockdown using RT-PCR Primer: PLTP (h)-PR: sc-106813-PR (20  $\mu$ 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.