

GLTP siRNA (h): sc-95836

BACKGROUND

GLTP (glycolipid transfer protein) is a 209 amino acid protein that belongs to the GLTP family. GLTP accelerates glycolipid intermembrane transfer via a unique lipid transfer/binding fold (GLTP fold) that defines the GLTP superfamily. GLTP catalyzes the transfer of various glycosphingolipids between membranes, but does not catalyze the transfer of phospholipids. GLTP may also be involved in the intracellular translocation of glucosylceramides. Highly conserved among mammals, GLTP is detected in fibroblasts as well as various cancer cell lines. Existing as a monomer, GLTP is localized to the cytoplasm and is encoded by a gene that maps to human chromosome 12q24.11 and mouse chromosome 5 F.

REFERENCES

1. Mattjus, P., et al. 2000. Charged membrane surfaces impede the protein-mediated transfer of glycosphingolipids between phospholipid bilayers. *Biochemistry* 39: 1067-1075.
2. Li, X.M., et al. 2004. Human glycolipid transfer protein: probing conformation using fluorescence spectroscopy. *Biochemistry* 43: 10285-10294.
3. Rao, C.S., et al. 2004. Glycolipid transfer protein mediated transfer of glycosphingolipids between membranes: a model for action based on kinetic and thermodynamic analyses. *Biochemistry* 43: 13805-13815.
4. Malinina, L., et al. 2004. Structural basis for glycosphingolipid transfer specificity. *Nature* 430: 1048-1053.
5. Malakhova, M.L., et al. 2005. Point mutational analysis of the liganding site in human glycolipid transfer protein. Functionality of the complex. *J. Biol. Chem.* 280: 26312-26320.

CHROMOSOMAL LOCATION

Genetic locus: GLTP (human) mapping to 12q24.11.

PRODUCT

GLTP 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 GLTP shRNA Plasmid (h): sc-95836-SH and GLTP shRNA (h) Lentiviral Particles: sc-95836-V as alternate gene silencing products.

For independent verification of GLTP (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-95836A, sc-95836B and sc-95836C.

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

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

GLTP (C-3): sc-514289 is recommended as a control antibody for monitoring of GLTP 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 GLTP gene expression knockdown using RT-PCR Primer: GLTP (h)-PR: sc-95836-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Mishra, S.K., et al. 2018. CPTP: a sphingolipid transfer protein that regulates autophagy and inflammasome activation. *Autophagy* 14: 862-879.
2. Huang, M.H., et al. 2019. Up-regulation of glycolipid transfer protein by bicyclol causes spontaneous restriction of hepatitis C virus replication. *Acta Pharm. Sin. B* 9: 769-781.

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.