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CEL shRNA (h) Lentiviral Particles: sc-44447-V

BACKGROUND

Carboxyl ester lipase (CEL), previously named cholesterol esterase or bile salt-stimulated lipase, hydrolyzes cholesteryl esters, phospholipids, lysophospholipids ceramide and tri-, di- and mono-acylglycerols. CEL contains an active site catalytic triad of serine-histidine-aspartate, which is centrally located within the enzyme structure. Production of CEL primarily occurs in the pancreas and lactating mammary gland, but it is also expressed in liver, macrophages and in the vessel wall. CEL has a wide substrate reactivity, and may perform multiple functions in lipid and lipoprotein metabolism and atherosclerosis. CEL also participates in chylomicron assembly and secretion, which is mediated by its ceramide hydrolytic activity.

REFERENCES

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- Bengtsson, S.H., et al. 2002. Transcriptional regulation of the human carboxyl ester lipase gene in THP-1 monocytes: an E-box required for activation binds upstream stimulatory factors 1 and 2. *Biochem. J.* 365: 481-488.
- Higuchi, S., et al. 2002. Characterization of a VNTR polymorphism in the coding region of the CEL gene. *J. Hum. Genet.* 47: 213-215.
- Hui, D.Y., et al. 2002. Carboxyl ester lipase: structure-function relationship and physiological role in lipoprotein metabolism and atherosclerosis. *J. Lipid Res.* 43: 2017-2030.
- Kirby, R.J., et al. 2002. Bile salt-stimulated carboxyl ester lipase influences lipoprotein assembly and secretion in intestine: a process mediated via ceramide hydrolysis. *J. Biol. Chem.* 277: 4104-4109.
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CHROMOSOMAL LOCATION

Genetic locus: CEL (human) mapping to 9q34.2.

PRODUCT

CEL shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 2 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see CEL siRNA (h): sc-44447 and CEL shRNA Plasmid (h): sc-44447-SH as alternate gene silencing products.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

APPLICATIONS

CEL shRNA (h) Lentiviral Particles is recommended for the inhibition of CEL expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

GENE EXPRESSION MONITORING

CEL (G-12): sc-377130 is recommended as a control antibody for monitoring of CEL 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CEL gene expression knockdown using RT-PCR Primer: CEL (h)-PR: sc-44447-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.