

# PTPLAD2 shRNA (h) Lentiviral Particles: sc-92656-V

## BACKGROUND

PTPLAD2 (protein tyrosine phosphatase-like A domain containing 2), also known as HACD4 (3-hydroxyacyl-CoA dehydratase 4), is a 232 amino acid multi-pass membrane protein that belongs to the very long-chain fatty acids dehydratase HACD family. Localizing to endoplasmic reticulum membrane, the PTPLAD2 protein is responsible for the dehydration step in very long-chain fatty acids (VLCFAs) synthesis. Highly expressed in leukocytes, and low expression in heart, spleen, kidney and placenta, the PTPLAD2 protein interact with the condensation enzymes of the ELOVL family. The PTPLAD2 gene is conserved in chimpanzee, canine, bovine, mouse, rat and chicken, and maps to human chromosome 9p21.3. Chromosome 9 consists of about 145 million bases and 4% of the human genome and encodes nearly 900 genes. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, is associated with the chromosome 9 gene encoding endoglin protein, ENG.

## REFERENCES

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5. Ikeda, M., Kanao, Y., Yamanaka, M., Sakuraba, H., Mizutani, Y., Igarashi, Y. and Kihara, A. 2008. Characterization of four mammalian 3-hydroxyacyl-CoA dehydratases involved in very long-chain fatty acid synthesis. *FEBS Lett.* 582: 2435-2440.
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## 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](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: PTPLAD2 (human) mapping to 9p21.3.

## PRODUCT

PTPLAD2 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 µl frozen stock containing 1.0 x 10<sup>6</sup> 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 PTPLAD2 siRNA (h): sc-92656 and PTPLAD2 shRNA Plasmid (h): sc-92656-SH as alternate gene silencing products.

## APPLICATIONS

PTPLAD2 shRNA (h) Lentiviral Particles is recommended for the inhibition of PTPLAD2 expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 10<sup>6</sup> 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PTPLAD2 gene expression knockdown using RT-PCR Primer: PTPLAD2 (h)-PR: sc-92656-PR (20 µl). 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.

## 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.