BACKGROUND
Thiamine, known more commonly as vitamin B1, is a water soluble chemical compound that is essential for proper neural function and carbohydrate metabolism. THTPA (thiamine triphosphatase), also known as THTP or THTPase, is a 230 amino acid member of the THTPase family. Localized to the cytoplasm and expressed at low levels in a variety of tissues, including testis, uterus, prostate, bladder, lung and kidney, THTPA is a hydrolase that catalyzes the H₂O-dependent hydrolysis of thiamine triphosphate (THTP) to thiamine diphosphate (THDP), the major form of thiamine within the cell. THTPA exists as a monomer and functions at an optimal pH of 8.5.

REFERENCES

CHROMOSOMAL LOCATION
Genetic locus: Thtpa (mouse) mapping to 14 C3.

PRODUCT
THTPA shRNA (m) 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 10⁶ 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 THTPA siRNA (m): sc-154261 and THTPA shRNA Plasmid (m): sc-154261-SH as alternate gene silencing products.

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.

APPLICATIONS
THTPA shRNA (m) Lentiviral Particles is recommended for the inhibition of THTPA expression in mouse cells.

SUPPORT REAGENTS
Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 10⁶ 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 THTPA gene expression knockdown using RT-PCR Primer: THTPA (m)-PR: sc-154261-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.

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