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- Mindermengenzuschlag
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SANTA CRUZ BIOTECHNOLOGY, INC.

THTPA siRNA (m): sc-154261

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 H_2O-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

1. Makarchikov, A.F., et al. 1998. Thiamine triphosphatase activity in bovine kidney. Biochem. Mol. Biol. Int. 46: 115-123.
2. Lakaye, B., et al. 2002. Molecular characterization of a specific thiamine triphosphatase widely expressed in mammalian tissues. J. Biol. Chem. 277: 13771-13777.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611612. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Lakaye, B., et al. 2004. Expression of 25 kDa thiamine triphosphatase in rodent tissues using quantitative PCR and characterization of its mRNA. Int. J. Biochem. Cell Biol. 36: 2032-2041.
5. Lakaye, B., et al. 2004. Human recombinant thiamine triphosphatase: purification, secondary structure and catalytic properties. Int. J. Biochem. Cell Biol. 36: 1348-1364.
6. Lakaye, B., et al. 2004. Thiamine triphosphate, a new signal required for optimal growth of *Escherichia coli* during amino acid starvation. J. Biol. Chem. 279: 17142-17147.
7. Czerniecki, J., et al. 2004. Neuronal localization of the 25 kDa specific thiamine triphosphatase in rodent brain. Neuroscience 125: 833-840.

CHROMOSOMAL LOCATION

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

PRODUCT

THTPA siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see THTPA shRNA Plasmid (m): sc-154261-SH and THTPA shRNA (m) Lentiviral Particles: sc-154261-V as alternate gene silencing products.

For independent verification of THTPA (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154261A, sc-154261B and sc-154261C.

PROTOCOLS

See our web site at 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

THTPA siRNA (m) is recommended for the inhibition of THTPA expression in mouse 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 µM in 66 µl. 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.

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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.