SANTA CRUZ BIOTECHNOLOGY, INC.

TTP-α siRNA (h): sc-61734

BACKGROUND

Tocopherol transfer protein α (TTP-α) is a cytosolic liver protein which binds α-tocopherol (vitamin E) and enhances its transfer between separate membranes. Defects in TTP-α cause ataxia with isolated vitamin E deficiency (AVED), a rare autosomal recessive neurogenerative progressive disorder characterized by reduced plasma levels of vitamin E. AVED causes peripheral neuropathy and a loss of balance and coordination. In addition to neurological symptoms, some individuals with AVED may also display eye abnormalities, disorders affecting the heart muscles (cardiomyopathy) and an abnormal curviaure of the spine (scoliosis). Friedreich's ataxia, a disease which causes muscle weakness and ataxia, is similar to AVED in clinical presentation and is the most common inherited ataxia.

REFERENCES

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2. Arita, M., et al. 1995. Human α-tocopherol transfer protein: cDNA cloning, expression and chromosomal localization. Biochem. J. 306: 437-443.
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4. Gohil, K., et al. 2005. α-tocopherol transfer protein deficiency in mice causes multi-organ downregulation of gene networks and behavioral deficits with age. Ann. N.Y. Acad. Sci. 1031: 109-126.
5. Atkinson, J.K., et al. 2005. Fluorescent tocopherols as probes of inter-vesicular transfer catalyzed by the α-tocopherol transfer protein. Ann. N.Y. Acad. Sci. 1031: 324-327.
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7. Qian, J., et al. 2005. Intracellular localization of α-tocopherol transfer protein and α-tocopherol. Ann. N.Y. Acad. Sci. 1031: 330-331.
8. Morley, S., et al. 2005. Structure-function relationship in the tocopherol transfer protein. Ann. N.Y. Acad. Sci. 1031: 332-333.

CHROMOSOMAL LOCATION

Genetic locus: TTPA (human) mapping to 8q12.3.

PRODUCT

TTP-α 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TTP-α shRNA Plasmid (h): sc-61734-SH and TTP-α shRNA (h) Lentiviral Particles: sc-61734-V as alternate gene silencing products.

For independent verification of TTP-α (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-61734A, sc-61734B and sc-61734C.

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

TTP-α siRNA (h) is recommended for the inhibition of TTP-α 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 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 TTP-α gene expression knockdown using RT-PCR Primer: TTP-α (h)-PR: sc-61734-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.

PROTOCOLS

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