SANTA CRUZ BIOTECHNOLOGY, INC.

TAUT siRNA (m): sc-61649

BACKGROUND

Taurine is an abundant organic osmolyte that possesses antioxidant and immunomodulatory properties and plays a role in cell volume homeostasis. Taurine is taken up into cells via the taurine transporter (TAUT). TAUT, which is sodium- and chloride-dependent, is a multi-pass membrane protein belonging to the sodium neurotransmitter symporter (SNF) family of proteins. TNFα upregulates TAUT expression, while phosphorylation on Serine 322 downregulates it. Overexpression of TAUT protects renal cells from cisplatin-induced nephrotoxicity.

REFERENCES

1. Jhiang, S.M., et al. 1993. Cloning of the human taurine transporter and characterization of taurine uptake in thyroid cells. FEBS Lett. 318: 139-144.
2. Ramamoorthy, S., et al. 1994. Functional characterization and chromosomal localization of a cloned taurine transporter from human placenta. Biochem. J. 300893-300900.
3. Miyamoto, Y., et al. 1996. Isolation of a cDNA encoding a taurine transporter in the human retinal pigment epithelium. Curr. Eye Res. 15: 345-349.
4. Takasaki, M., et al. 2004. Physiological significance of the taurine transporter and taurine biosynthetic enzymes in 3T3-L1 adipocytes. Biofactors 21: 419-421.
5. Voss, J.W., et al. 2004. Regulation of the expression and subcellular localization of the taurine transporter TAUT in mouse NIH3T3 fibroblasts. Eur. J. Biochem. 271: 4646-4658.
6. Friedrich, B., et al. 2005. Influence of standard haemodialysis treatment on transcription of human serum- and glucocorticoid-inducible kinase SGK1 and taurine transporter TAUT in blood leukocytes. Nephrol. Dial. Transplant. 20: 768-774.

CHROMOSOMAL LOCATION

Genetic locus: Slc6a6 (mouse) mapping to 6 D1.

PRODUCT

TAUT 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 TAUT shRNA Plasmid (m): sc-61649-SH and TAUT shRNA (m) Lentiviral Particles: sc-61649-V as alternate gene silencing products.

For independent verification of TAUT (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-61649A, sc-61649B and sc-61649C.

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.

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

TAUT siRNA (m) is recommended for the inhibition of TAUT 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.

GENE EXPRESSION MONITORING

TAUT (A-11): sc-393036 is recommended as a control antibody for monitoring of TAUT 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 reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TAUT gene expression knockdown using RT-PCR Primer: TAUT (m)-PR: sc-61649-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.