SANTA CRUZ BIOTECHNOLOGY, INC.

TTL siRNA (h): sc-94871

BACKGROUND

TTL (Tubulin tyrosine ligase) is a 377 amino acid cytosolic enzyme that catalyzes the addition of tyrosine to the C-terminal end of α Tubulin following translation. Essential for neuronal organization, TTL binds magnesium and potassium as cofactors and exists as a monomer. TTL contains one TTL domain, belongs to the Tubulin—tyrosine ligase family, and is encoded by a gene that maps to human chromosome 2q13. Human chromosome 2 consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2, including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

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4. Mialhe, A., et al. 2001. Tubulin detyrosination is a frequent occurrence in breast cancers of poor prognosis. Cancer Res. 61: 5024-5027.
5. Erck, C., et al. 2003. Cloning and genomic organization of the TTL gene on mouse chromosome 2 and human chromosome 2q13. Cytogenet. Genome Res. 101: 47-53.
6. Brandenberger, R., et al. 2004. Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation. Nat. Biotechnol. 22: 707-716.
7. Kelsell, D.P., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. Am. J. Hum. Genet. 76: 794-803.
8. Erck, C., et al. 2005. A vital role of Tubulin-tyrosine-ligase for neuronal organization. Proc. Natl. Acad. Sci. USA 102: 7853-7858.

CHROMOSOMAL LOCATION

Genetic locus: TTL (human) mapping to 2q13.

PRODUCT

TTL 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 TTL shRNA Plasmid (h): sc-94871-SH and TTL shRNA (h) Lentiviral Particles: sc-94871-V as alternate gene silencing products.

For independent verification of TTL (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-94871A, sc-94871B and sc-94871C.

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

TTL siRNA (h) is recommended for the inhibition of TTL 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 TTL gene expression knockdown using RT-PCR Primer: TTL (h)-PR: sc-94871-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.