SANTA CRUZ BIOTECHNOLOGY, INC.

TTLL12 siRNA (h): sc-76773

BACKGROUND

A large protein group known as the tubulin tyrosine ligase-like (TTLL) family is implied to catalyze ligations of amino acids to tubulins and other substrates. Each member contains a characteristic TTL domain. TTLL12 (Tubulin tyrosine ligase-like family, member 12) is a 644 amino acid protein that contains one TTL domain. Of the 14 members of the TTLL family that modify Tubulin, TTLL12 is the least characterized member. TTLL12 is highly expressed in a multitude of metastatic prostate cancer cell lines, therefore, it is considered a target for tumor therapy. Overexpression of TTLL12 is suggested to alter chromosome ploidy, whereas downregulation of TTLL12 influence several post-translational modifications of tubulin. TTLL12 is encoded by a gene located on human chromosome 22, which houses over 500 genes and is the second smallest human chromosome.

REFERENCES

1. Trichet, V., et al. 2000. Characterization of the human Tubulin tyrosine ligase-like 1 gene (TTLL1) mapping to 22q13.1. Gene 257: 109-117.
2. Briegel, W. and Cohen, M. 2004. Chromosome 22q11 deletion syndrome and its relevance for child and adolescent psychiatry. An overview of etiology, physical symptoms, aspects of child development and psychiatric disorders. Z. Kinder Jugendpsychiatr. Psychother. 32: 107-115.
3. Janke, C., et al. 2005. Tubulin polyglutamylase enzymes are members of the TTL domain protein family. Science 308: 1758-1762.
4. Ikegami, K., et al. 2008. TTLL10 is a protein polyglycylase that can modify nucleosome assembly protein 1. FEBS Lett. 582: 1129-1134.
5. Rogowski, K., et al. 2009. Evolutionary divergence of enzymatic mechanisms for posttranslational polyglycylation. Cell 137: 1076-1087.
6. Ikegami, K. and Setou, M. 2009. TTLL10 can perform Tubulin glycylation when co-expressed with TTLL8. FEBS Lett. 583: 1957-1963.
7. Wasylyk, C., et al. 2010. Tubulin tyrosine ligase like 12, link to prostate cancer through Tubulin post-translational modification and chromosome ploidy. Int. J. Cancer 127: 2542-2553.

CHROMOSOMAL LOCATION

Genetic locus: TTLL12 (human) mapping to 22q13.2.

PRODUCT

TTLL12 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 TTLL12 shRNA Plasmid (h): sc-76773-SH and TTLL12 shRNA (h) Lentiviral Particles: sc-76773-V as alternate gene silencing products.

For independent verification of TTLL12 (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-76773A, sc-76773B and sc-76773C.

RESEARCH USE

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

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

TTLL12 siRNA (h) is recommended for the inhibition of TTLL12 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 TTLL12 gene expression knockdown using RT-PCR Primer: TTLL12 (h)-PR: sc-76773-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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