SANTA CRUZ BIOTECHNOLOGY, INC.

TTLL9 siRNA (h): sc-76774

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. TTLL9 (Tubulin tyrosine ligase-like family, member 9) is a 439 amino acid cytoplasmic protein that localizes to the cilium basal body. Containing one TTL domain, TTLL9 may act as a Tubulin polyglutamylase that forms polyglutamate side chains on Tubulin. It is suggested that mutations in the gene encoding TTLL9, as well as TTLL1, result in decreased cell multiplicity and phagocytosis. Reduced number of cortical microtubules and defects in the maturation of basal bodies are also due to mutations in the TTLL9 and TTLL1 genes. TTLL9 exists as three alternatively spliced transcripts that are encoded by a gene located on human chromosome 20q11.21.

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. Janke, C., et al. 2005. Tubulin polyglutamylase enzymes are members of the TTL domain protein family. Science 308: 1758-1762.
3. Wloga, D., et al. 2008. Glutamylation on α-Tubulin is not essential but affects the assembly and functions of a subset of microtubules in *Tetrahymena thermophila*. Eukaryotic Cell 7: 1362-1372.
4. Ikegami, K., et al. 2008. TTLL10 is a protein polyglycylase that can modify nucleosome assembly protein 1. FEBS Lett. 582: 1129-1134.
5. Ikegami, K. and Setou, M. 2009. TTLL10 can perform Tubulin glycylation when co-expressed with TTLL8. FEBS Lett. 583: 1957-1963.
6. Kubo, T., et al. 2010. Tubulin polyglutamylation regulates axonemal motility by modulating activities of inner-arm dyneins. Curr. Biol. 20: 441-445.
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: TTLL9 (human) mapping to 20q11.21.

PRODUCT

TTLL9 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 TTLL9 shRNA Plasmid (h): sc-76774-SH and TTLL9 shRNA (h) Lentiviral Particles: sc-76774-V as alternate gene silencing products.

For independent verification of TTLL9 (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-76774A, sc-76774B and sc-76774C.

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

TTLL9 siRNA (h) is recommended for the inhibition of TTLL9 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 TTLL9 gene expression knockdown using RT-PCR Primer: TTLL9 (h)-PR: sc-76774-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.